OHIO

MEDICAL AND SURGICAL JOURNAL.

Vol. II. No. 5. Columbus, October, 1877. New Series.

ORIGINAL COMMUNICATIONS.

ART. I.—*New Method of Reduction of Discolation of the Hip.* By S. J. ALLEN, M.D., White River Junction, Vermont.

One day in the month of March, 1841, at which time I was a student of medicine in the office of John L. Swett, M.D., of Newport, N. H., I was riding in my sleigh, about three miles south of the village, and, passing a house situated some six rods from the road, I heard an outcry. Looking in the direction of the alarm, I saw a woman, Mrs. Perry by ame, who, in stepping from the door, had slipped and fallen upon the icy ground. Hitching my horse, I walked rapidly towards her. As I came near, two men came out of the house, and, lifting her erect, assisted her inside. While they were bearing her along, I noticed that the right foot turned in upon the dorsum of the left; and I said to myself—"Case of dislocated femur upon the dorsum illii." Expressing my opinion to the friends of the woman, I said, "You must send for Dr. Swett to reduce it." A messenger was directly dispatched, who upon the way met Dr. Mason Hatch, a respectable practitioner of medicine, but less skilled in surgery. The doctor being requested to call, did so, and examined the hip by passing his hand over it, saying that he guessed the hip was not out of joint; and bringing from his sleigh a box of Kittridge's ointment, directed it to be applied three times a day to the hip, saying at the same time that he thought the patient would be well in a few days. After the learned doctor's departure, I repeated my opinion that the hip was

dislocated, and that Dr. Swett must be summoned to put matters right. While the horse was being harnessed the second time, I concluded to make some examination of the limb for the purpose of reassuring myself of the correctness of the diagnosis. Grasping the leg with my right hand, I flexed the leg upon the thigh, and the thigh at right angles with the body. The old lady, for thus I considered her then, although but forty, complained of my hurting her; and some how the limb became fixed in the position, and could not well be moved. It seemed locked, and could not be moved further without considerable force and pain. With the view of relieving my patient from this uncomfortable state, I stepped upon the bed, and, standing with her limb between my own limbs, and placing the dorsum of her foot upon my nates, and my right hand under the bend of her knee, I lifted her hips from the bed, holding her steadily in that position a few seconds, when the head of the dislocated bone slipped into the socket, accompanied by that peculiar audible shock which so delights the surgeon's ear. She immediately exclaimed, "I am well! I am well!" Of course, it was unnecessary to send for Dr. Swett now, so the horse was returned to the stable.

On my return to Newport village, I found Dr. Kittridge, of Claremont, N. H., present with Dr. Swett, and immediately related the incident as above described. I was informed by the two justly eminent surgeons that it was not a case of complete luxation, but that the head of the femur got caught upon the edge of the acetabulum, and that my manipulation had, fortunately and accidentally lifted the bone into the socket. This announcement made my hat and coat seem very small; but I accepted the situation with a submissive grace, although I never forgot the method of reduction. Keeping it in mind, I intended to apply it in my next case, which I confidently expected to meet with sooner or later.

September 21, 1848, I was called to a little girl ten years

old—Minnie Clark—who, while climbing upon a heavy gate resting upon the fence, fell upon her back, the gate falling upon her, dislocating the right femur upon the dorsum illii. I attempted reduction by the method resorted to in the case of Mrs. Perry, but failed, in consequence of the great rigidity of the muscles, the light weight of the body of the child, and the want of an anesthetic. So I sent for Dr. Dixi Crosby, who reduced it with Jarvis's adjuster, after saying that he disliked to apply so powerful an instrument to so young a subject, fearing that he might separate the epiphysis at some point. Jarvis's adjuster was very generally used at that time, and in that vicinity, to reduce dislocations.

The 16th of July, 1872, I was called, in consultation with Dr. Sperry, of West Hartford, Vermont, in the case of a French Canadian, Lewis Baumhar, a section hand on the Central Vermont Railroad, who, while helping to carry a track-rail, fell on his right knee, the rail slipping from his shoulder and falling upon the sacrum, dislocating the right femur upon the dorsum illii. When I arrived, Dr. Sperry asked me if I had my pulleys with me. I answered that I had the pulleys which the Almighty furnished me with. Said the doctor, "You can't set the leg without pulleys. I answered that I could try. After the patient was fully chloroformed, the muscles being thoroughly relaxed, I stepped upon the bed, and flexed the leg upon the thigh, and the thigh at right angles with the body, and placing his foot between my legs, and my hand beneath the bend of his knee, I lifted the hips well from the bed, and held them immovable in that position less than half a minute, when the head of thigh bone returned into the socket with a sensible and audible shock. The reduction was accomplished so quietly that the doctor did not notice when it occurred, nor did he understand the method used, and at first questioned the fact of its having been reduced.

September 25, 1874, I was called, with Dr. Davis, of Leb-

anon, New Hampshire, in the case of N. S. Huntington, of Hanover, New Hampshire, a brakeman on the Central Vermont Railroad, who, while coupling cars at Claremont Junction, had his right hip dislocated on the dorsum. Chloroform was administered by Dr. Davis, and I reduced this dislocated femur in the same manner as in the case of Baumhar, and with the same facility.

January 13, 1877, called, in consultation with Dr. B. F. Eaton, of Hartford, Vermont, to see A. Woodbury, a freight brakeman, who had his left hip dislocated while coupling cars at Bellows Falls, Vermont. Dr. Eaton gave the chloroform, while, by the same method as in the above described cases, I returned the dislocated bone to its proper place in less than half a minute.

These four cases are all I have to relate, as testing this new, easy, and, I claim, unfailing method of reducing luxations of the hip joint. It will be noticed that they are all cases of dislocation on the dorsum illii, but at the same time we should be reminded that the dislocation on the dorsum is the type of all luxations of the femur, and that before the reduction is accomplished in other and rarer forms, the head of the thigh bone is thrown on the dorsum by manipulation before it can be returned to the acetabulum. Indeed, it is not uncommon for the head of the femur to be changed from one position to the other, several times during the manipulations, before it can be returned to the socket, in cases of pubic and ischiatic forms of displacement, by the method of Nathan Smith.

By my method, the lower part of the body is lifted from the floor and held immovable. This maneuver relaxes the femoral ligament, and the weight of the hips and opposite limb rotates the body outward, producing sufficient abduction and extension to quietly to draw the acetabulum over the head of the femur, and at the same time compelling the pa-

tient to become "particeps criminis" in case of a suit for mal-practice.

[Dr. Allen requested me, which is surely unnecessary, to add a word of indorsement to his article.

This I most willingly do, for his method is so beautiful and simple, and seems so rational withal, that we can only wonder, as in many similar cases, that it was not thought of long ago. But as the final acceptance of any surgical procedure must be based on the result of actual trial and experience, we would urge upon our readers to try the new method, carefully following the directions of its originator, and publish their results.—EDITOR.]

ART. II.—*A Case of Extra Uterine Pregnancy.* By STARLING LOVING, M.D., Professor of Theory and Practice in Starling Medical College, and H. G. LANDIS, M.D., Professor of Obstetrics in Starling Medical College.

Mrs. X., æt. twenty-eight, dark hair, dark complexion, well formed, inclined to corpulency. General health good. No local disease or abnormal state until the present attack. Pluripara. Last child born after normal labor, February 3, 1872. Menstruation returned in June, 1872. Health perfect since, four and a half years. Menstruation entirely regular. Last menstruation January 10, 1877. It was scanty and had an unusually heavy and unpleasant odor. Soon after, she experienced occasional nausea, mostly in the morning, and having no flow on the 10th of February, when she expected it, concluded that she was pregnant.

At the latter date, however, pain in the back and loins was felt, and had only partially subsided, when, on February 19, she applied for treatment. A specular examination revealed a patch of granular erosion on the anterior lip of the cervix, while the edges of the entire os uteri were similarly affected. There was slight anteversion of the womb, and a scanty, creamy leucorrhœa. Deeming these symptoms suf-

ficient to explain her condition, appropriate treatment was instituted. On February 22d, she was again examined and the treatment continued, her condition having somewhat improved. On February 23d, she was suddenly seized with violent abdominal and lumbar pain, accompanied with tenesmus, coming on while at the water-closet, just after the act of defecation. This pain, which was paroxysmal and colicky in character, subsided soon after a dose of morphine and chloral combined had been administered, but perhaps, as the further history shows, not on account of its influence.

Attacks of pain, similar in character, came on again; at first every day, then every two, three, or four days. On one occasion, a half fluid ounce of laudanum was used in fifty minutes with barely the effect of relieving the pain. On another, five fluid drachms of laudanum in the course of an hour, followed by the hypodermic administration of one-half grain of sulphate of morphia, was required to relieve the suffering. This paroxysm occurred March 10th, after which the patient was given hypodermic injections three or four times daily (atropia was presently added with excellent effect), in order to prevent recurrence of the spasmodic pain.

Up to February 26th the os uteri had been closed by mucous, but on that day a very slight flow of blood (perhaps a half drachm) occurred, after which the os was found sufficiently patulous to admit the first joint of the index finger.

From this date the womb slowly settled in the pelvis, at first maintaining its anteflexion, and then having its axis coincident with the pelvic curve. Simultaneously a tumor began to be evident behind the cervix; not in, but in the place of Douglas's cul de sac. The womb ceased to descend in about a week, after which it ascended until, by March 17th, the os could be felt high up, and just behind the pubis. The ascent was caused apparently by increase in the size of the tumor, which pari passu could be felt more prominently.

By the 1st of March it was quite evident that the womb was enlarged, and in view of all the symptoms, extra uterine pregnancy was suspected, all the more, as with the development of the tumor in the pelvis, there was not any fever or other indication of inflammation, except local tenderness, which was not excessive. If there was extra uterine pregnancy, the womb, though enlarged, would be found empty. It was decided to pass a sound to ascertain definitely. A sound was passed with ease three and a half inches. A flexible catheter was afterward passed without resistance four inches, and allowed to remain a few hours. To satisfy a consulting physician, a few doses of fluid extract of ergot was administered. This produced no effect except to cause nausea. These operations were performed, and the ergot administered on the 4th of March. A few uterine contractions were caused by the presence of the catheter, aided perhaps by the ergot, during which not only the outline of the womb could be traced in the hypogastrium, but also an irregular tumor associated with it in an ill-defined way, and which was also subject to rythmical contractions, more or less apparent, it becoming more tense and harder during their continuance. This tumor appeared to extend completely across the pelvic brim, but was harder and more noticeable just above the left groin.

No hemorrhage or other discharge followed the uterine contractions until March 7th, when an apparently menstrual flow began, having the usual characteristics, though as it progressed some clots passed. A close watch was kept and inspection made on all that was passed, and on March 9th an apparent clot, the size of a hickory-nut, was discovered, which, when unrolled and placed in water, proved as we thought, to be an unmistakeable strip of decidua. It was two and one-half inches long by one inch in width. On the following day (March 10th) two large strips passed together, with a few smaller shreds. The character of these strips

was evident, both by gross and microscopical inspection, being richly supplied with tortuous blood-vessels, and exhibiting decidual cells. The decidual lining had the somewhat characteristic velvety feel. After the passage of these strips, on March 10th, a finger was introduced into the uterine cavity and its emptiness demonstrated. A conjoined rectal and vaginal exploration enabled us to locate the lower segment of the tumor, between the uterus and rectum, in the retro uterine pouch. Change of posture did not appreciably alter the position of the tumor; perhaps it became more distinct above the brim of the pelvis when the patient was placed upon her elbows and knees, but no other change could be detected.

The paroxysms of pain greatly weakened the patient. During their continuance, the pulse became quick and wiry, and decidedly increased in frequency, while the body was bedewed with cold sweat. There was almost constant pain in the back, no doubt in great measure from the pressure of the tumor upon the parts within the pelvis.

Partly from the pressure of the tumor, and partly from the effect of repeated doses of morphine, there was rather persistent constipation.

From the same causes the functions of the bladder were performed imperfectly.

With the recollection of the extreme difficulty of making an accurate diagnosis of abdominal tumors, and the many sources of error in the signs of the early pregnancy, especially of abnormal pregnancy, in the early stages constantly before us, after carefully considering all the symptoms objective and subjective which have been detailed with the history of the case, we decided that our patient was suffering from extra uterine pregnancy, probably tubo-abdominal in character. We were led to this conclusion from what has already been stated, and from the following additional facts: A tumor of sudden growth, only slightly sensitive, obscurely

fluctuating, and exhibiting few, if any, of the other symptoms common to swellings from inflammation, filling the larger portion of the pelvis, could be one only of a few things.

From the absence of extreme tenderness, of febrile symptoms, of rigors and sweats (except during the paroxysms of pain), and of the symptoms of acute inflammation generally, it could not be pelvic cellulitis.

It must, then, be an enlarged ovary, a hæmatocele, or extra uterine pregnancy.

It was not probably the first, because of its shape, its immobility, its rapid growth, and more particularly because of the symptoms which preceded its appearance and which accompanied its development throughout.

If an hæmatocele, it should present a more uniform outline, be more nearly spherical in shape, and more moveable; its development should have been less gradual and more quickly followed by fever and other evidences of constitutional disturbance, which, with such regularity, mark the occurrence of this accident. Hæmatocele does not commonly, if ever, continue to increase regularly during a period of several weeks, and, except as an accident of parturition, is usually of smaller size than the tumor under examination.

The distension of the hypogastrium, the meteorism, and the extreme tenderness present, as symptoms of hæmatocele, were wanting, as was the sensation of doughy semi-elasticity conveyed to the touch always, and in all parts, by accumulations of blood in the soft tissues, and in such of the cavities as can be reached in manual examinations.

We remembered, however, that the pain produced by the mechanical pressure of an hæmatocele, the displacement of the uterus, and the interference with the functions of the bladder and of the rectum, are very nearly identical with the pain, displacements, and interruption of functions caused by extra uterine pregnancy. The pain from the latter cause differs, in that it is more decidedly paroxysmal in

character, and is furthermore so intense as to be almost pathognomonic. Finally, if the case was one of hæmatocele, suppuration, with its usual phenomena, must have occurred before the end of ten weeks and longer. Thus the diagnosis was made quite complete by exclusion.

We judged it to be tubo-abdominal, from the fact that we thought we could detect contraction in the tumor (or its walls) when the finger or a sound was introduced into the cavity of the womb, and caused contraction of that organ. There was decided contraction afterward, when the electric current was applied. Such contraction, we thought, could not occur without the existence of muscular fiber in a portion at least of the walls of the sac, and muscular fiber in that situation must be derived from the uterus or its appendages.

During the intervening time up to the 18th of March, the uterine flow, which had the character of the lochia, continued after the passage of the decidua; on the 18th of March it ceased.

The prospect was gloomy. At least the patient had months, and perhaps years of suffering before her, with the chance of death at any time from one of the numerous accidents incident to her condition.

So far nothing beyond palliation of pain and measures for the relief of constipation had been done in the way of treatment, but our evident duty to the poor patient demanded some more consistent and effective steps, which, of several modes or plans recommeded, was likely to avert the serious dangers pending and increasing each day.

The immediate danger was from rupture of the cyst, and consequent hemorrhage or inflammation, one or both. The liability to rupture of the cyst would increase to the fifth month of pregnancy, when its occurrence would be most probable, and our duty was to remove or destroy the ovum

as speedily as possible in some way, so as to obviate further risk.

The method recommended in all the standard works on obstetrics, including Leishman, and also by several gentlemen, including Romsbothom, Hutchinson, Campbell, and others, who have written monographs on the subject, namely, to palliate and wait developments, and be ready to act when emergency required, we did not entertain, as such a mode promised, no relief from suffering, nor did it in the least lessen the danger. It would be simply carrying out what had already been done.

We also discarded the method proposed by Mr. Jessop, an advance on the older plan followed by the authorities just quoted, consisting in waiting until the fifth or sixth month of pregnancy or longer, according to circumstances, and then by the operation of gastrotomy, or, as some preferably call the operation, laparotomy, removing the fœtus, with its attachments, excepting the placenta, which Mr. Jessop advises to be left in situ to decompose, and be discharged through the wound.

We thought this scarcely less dangerous and objectionable than the older methods, though Mr. Jessop reports nearly fifty per cent. of recoveries (fifteen of thirty-one cases, in some of which both mother and child survived.)

A third method, removal by incision through the vagina into Douglas's cul de sac, proposed originally, according to Parry, by Dr. Charles Kelley, in 1750, and afterward by Bonnie, Dewees, and others, particularly by Cazeaux and Tanner, who recommend this operation in preference to gastrotomy. Campbell, in mentioning and commending the operation, states that in nine cases three mothers and three children were saved, but that "of the nine cases five mothers and four children perished." Parry has collected fifteen cases altogether, in which this operation has been performed.

XUM

"In these, nine mothers died and six lived, a mortality of sixty per cent. Of the children only two were saved."

Ten of these operations were primary, and the remainder secondary. All except one, by Thomas in 1875, were performed in the later months of pregnancy, or at full term.

One of the most remarkable, is that of Dr. King, who lived at Edisto Island, South Carolina, and performed the operation unaided upon a patient at full term, and after labor had commenced saving both mother and child. This operation was performed in 1801 or 1802, and was fully described by Dr. King, who, in a pamphlet, published a full account of it.

Thomas's operation, performed in 1875, was done in the third month of pregnancy, and was entirely successful. It differs from others of the same nature, in the use of the galvano-cautery knife, instead of a simple surgical incision, thus avoiding much hemorrhage. In a pamphlet descriptive of the case he recommends the operation at the earliest period after the diagnosis has been established, as probably safer than the plan of waiting until later. One can not but admire the boldness of this gentleman, and the frankness with which he makes his recommendation; but we remember he has one case only with its results as a basis for his opinion.

The method has the merit of affording a speedy termination of a case, but in view of the statistics and the character of the necessary procedures, it was somewhat appalling, and did not strike us as possible, although our case presented in the main the same features which decided Thomas to select the posterior wall of the vagina as the point for operation, namely, the situation of the tumor, vaginal fluctuation, together with the other symptoms already described, indicative of the pregnant state.

We therefore adopted the only remaining plan, namely, the destruction of the life of the fœtus by the influence of

electrici'y as proposed originally by Bachetti of Pisa in 1857, and afterwards Cazeaux, and practiced by Mr. Hicks in London in 1866, and Dr. Allen in Philadelphia in 1872. Bachetti used electro-puncture and succeeded. Hicks used a common electro galvanic battery, placing one electrode in the vagina and the other on the abdomen over the tumor. "The fœtal movements failed during the application of the current, but returned afterwards."

Dr Allen has been successful in two cases. He used "an ordinary electro-magnetic machine, applying one pole to the tumor in the vagina through a glass speculum, while the other was applied to the abdominal parietes over the fœtal cyst."

This method of treatment had the advantage of little danger, as compared with those which we had considered, and the merit of having been successfully used without risk to the mother. The only danger was the possible rupture of the cyst, through the influence of the shock, but we estimated this as comparatively trifling. The harmlessness of the method, coupled with the fact that its use did not preclude the use of other means in case of failure, commended it to us, and we proceeded without delay to put it into operation.

We thought of the application of a single powerful shock by the discharge of a Leyden jar, as recommended by Duchenne, as most likely to cause the immediate death of the fœtus, but we feared that such a shock might, at the same time, cause the rupture of the cyst. We next thought of the application of the constant current as the most powerful in chemical influence, but we remembered that as it would probably be necessary to continue the application of the electrodes for a considerable length of time. Cauterization, or at least an unpleasant degree of irritation would probably, result, so we decided to use the interrupted current of moderate strength, and to continue its application at intervals

until some impression was produced. The available instrument was an ordinary Drescher battery. The current was applied in moderate strength and continued fifty-five minutes.

The patient complained bitterly of its effects. In addition to the ordinary unpleasant sensations, she thought it increased the pain in her back. It caused evident weakness of the heart, as shown in the pulse, and increased paleness of the surface, with sensations of faintness.

We thought the current caused contraction of the uterus, and simultaneously, or nearly so, contraction of the tumor. If there was contraction of the tumor (of which there is little doubt), the opinion that the pregnancy was tubo abdominal received support from the effect of the electricity.

We followed the mode of application used by Dr. Allen, namely, the application of our electrode (properly insulated) to the tumor in the vagina, and the other to the parietes of the abdomen. The result was all that could be desired. The battery was first applied on March 20th for fifteen minutes. One-fourth inch of the coil was uncovered, gradually increased to three-fourths inches. On the 23d, the battery was turned on to one and a half inches for twenty seconds just before its withdrawal. The pain was intense, but after this date no pain or contraction of the cyst occurred.

On March 25th, the bowels moved spontaneously for the first time since February 23d, and she walked down stairs to dinner with a little assistance.

Eight applications of the battery were made in all. The last on March 30th, was with one-half of the coil uncovered for forty-five minutes, causing considerable back-ache during the last fifteen minutes.

On April 16th, the menses reappeared, and continued until April 21st. On the 22d, a sound was passed into the uterus for four and a half inches. The fundus of the womb can be felt just above the pubes. Thus another element in the diagnosis was added, viz.: the increase in size of the

empty womb, *pari passu* with the growth of the cyst. Very little change was observable in the tumor; fluctuation was still distinct; menstruation proceeded regularly after this—occurred on May 12–14, and on June 5. By July the womb had completely regained its normal size, and the tumor is not to be traced from the abdomen, though still distinctly felt from the vagina, being apparently as large as an average fist.

This is, then, the third successful case in which the electro-magnetic current has been used; and the only other case, recorded by Hicks, should really be excluded, since it was tried only twice and then relinquished. It is the least dangerous of all the methods, and does not preclude their subsequent employment. It is but fair to add that the constant hypodermic use of morphia for over a month may have had some influence in lowering the vitality of the fœtus and rendering the use of the battery more efficacious. The morphia habit was temporarily excited, but the patient was gradually weaned from its employment by about two weeks of "tapering."

ART. III.—*On Retropharyngeal Abscesses.* By Dr. JOHN C. PETERS, of New York, President of the Medical Society of the County of New York, etc.

Collections of pus on the posterior and lateral walls of the pharynx are not very common, but we have seen several cases. They generally appear as flattish, round, or oval swellings on the posterior walls of the pharynx, and vary much in size. They are more frequent in children than adults, but sometimes occur during infancy, and their principal seat is in the loose areolar tissue between the posterior surface of the pharynx and the muscles on the anterior portion of the spinal column. They sometimes occur as an acute phlegmonous inflammation of the sub-mucous tissue of the pharynx, in consequence of an extension of suppura-

tive inflammation of the tonsils, and more rarely from acute parenchymatous inflammation of the sub-mucous tissue of the soft palate, which has extended downwards. They may arise from erysipelatous cellulitis; or from disease of the cervical vertebræ, which has extended forwards; or from degeneration of the post pharyngeal glands; from pyæmic infection; or as the result of injury to the walls of the pharynx by fish-bones and other foreign bodies; or, finally, from diphtheritic or syphilitic pharyngitis.

The posterior wall of the pharynx is in relation with the cervical vertebræ, being separated from them by the recti antici, major and minor, and the longi colli muscles. Between them and the muscular coat of the pharynx, which is formed by the constrictor muscles, is a quantity of loose cellular tissue, in which the so-called retro-pharyngeal abscesses form. These abscesses push the pharynx forward against the posterior nares, if high up; and, if seated lower down, by pressing upon the larynx, they interfere with respiration and speech. Occasionally, as Bellamy says, they point at the side of the neck, in front of the sternocleido mastoid muscles. Again, the deep cervical fascia has an attachment to the tubercles of the transverse processes of the cervical vertebræ, and incloses the scaleni muscles, forming the prevertebral aponeurosis, and the lax cellular tissue lying between this and the pharyngeal muscles is the seat of many retropharyngeal abscesses, which may then point either into the pharynx, or, guided by the fascia, may travel down behind the carotid vessels; and, in cases of abscesses seated behind the deep cervical fascia, one must always be on the lookout for the gravitation of pus downwards towards the thoracic cavity.

The pharynx extends from the base of the skull down to a level with the fifth cervical vertebræ, which is on a level with the lower edge of the cricoid cartilage, where, becoming narrower, it merges into the œsophagus. Some small lym-

phatic glands lie behind the pharynx, and the pharyngeal glands proper are racemose and follicular, the latter having the peculiar construction and composition of those of the tonsils.

As regards the ages of the patients, in Mondiere's eighteen cases, seven were between eleven weeks and four and a half years old, and ten out of Duparcque's thirty cases were less than four and a half years of age; while in sixty-seven other cases five were under six months old; eight were between six and twelve months; three between one and two years; two between two and three years; five between three and five years; one between five and ten years; two between ten and fifteen years; and forty-one above fifteen years of age.

There is quite a contradiction of opinion and statement between the German, English, and American authorities as to the origin of the disease; the former claiming that it is rarely idiopathic, while the latter assert that it most frequently is of spontaneous origin. Niemeyer says it is usually caused by caries of the spine, or by inflammation and suppuration of the lymphatic glands behind the pharynx; or else it occurs as a secondary affection in the latter stages of typhus or scarlet fever, measles, septicæmia, and other infectious diseases; while it only occasionally appears as an idiopathic inflammation. Steiner asserts that they are generally due to caries of the cervical vertebræ, or to pyæmic infection; but West, on the other hand, says there are but few instances on record where the formation of these abscesses was the result of direct injury, and of their occurrence in connection with disease of the cervical vertebræ; and, leaving these exceptional cases out of consideration, they present themselves either as sequelæ of fever or as an idiopathic disease—the latter much more frequently than the former.

Dr. C. M. Allin, of New York, in 1851, gave the best account of this disease which had then been published, and tabulated fifty-eight cases from all sources, four of which had

been observed by himself; thirteen of them happened in infants under one year old; six more were under five years of age; seven were youths, or under fifteen years; and twenty-four were adults from twenty to sixty-one years of age. Or, as he sums up himself, twenty-eight were males, thirteen females, and seventeen, sex not stated; twenty were under ten years of age; four from ten to twenty years; five from twenty to thirty; five from thirty to forty years; four from forty to fifty; and three from fifty to seventy years old, and in seventeen the age was not mentioned.

The exciting causes were found to be exposure to cold in ten cases; lodgment of bones in the pharynx in eight; caries of cervical vertebræ in six; scrofula in five; syphilis in four; injuries to the pharynx in two; while the cause was or could not be assigned in twenty-two cases.

Of these, thirty-three cases were acute; seventeen chronic; and in eight no note was made. The abscesses were opened through the mouth in twenty-one cases; through the side of the neck in three; through the neck anteriorly in two; accidentally in three; spontaneously in four; not opened in twenty-three; while laryngotomy and tracheotomy were performed in five cases for supposed disease of the larynx.

Death occurred in thirty cases; in eighteen from asphyxia, and three from asthenia. Entirely recovered, twenty-five; with some stiffness of the neck in two; while the cause of death was not mentioned in five.

The simplest form of the disease arises from pure inflammation of the cellular tissue behind the pharynx, induced by taking cold, or the ordinary causes of unmixed inflammation. It is probable that the rectus capitis anticus muscles will be involved if the disease is seated high up; and the longus colli, if it is lower down, as well as the constrictor muscles of the pharynx. The symptoms will be a remarkable stiffness of the neck as well as pain and difficulty in swallowing, without any visible redness or swelling of the

throat at first, and the disease may be mistaken for rheumatism of the muscles of the throat, without any involvement of the mucous membrane. The best treatment of the latter or rheumatic disease is by the alkalies, aided with aconite and colchicum. The management of cellulitis, or phlegmonous inflammation of the connective tissue, is much more difficult, as there is a great tendency to the rapid formation of pus, owing to the large number of lymphoid corpuscules or young round cells which are poured out from the blood into the inflamed cellular tissue, where they aggregate into groups, especially around the connective-tissue corpuscules, causing destruction of the fat, which is usually plentiful in the cellular tissue, and purulent destruction of the tissue itself. These are processes which can rarely be stopped short of suppuration, but besides the usual antiphlogistic remedies, and the early resort to quihine and the mineral acids, the bromides have been recommended by some; and Ringer is especially urgent for the use of the sulphides. He says many abscesses, especially (!) in a *very* early (!!) stage of development, dry up and disperse, while boils and abscesses may be resolved by the sulphides; and even when matter has formed, they seem to check the surrounding inflammations and limit their area. This beneficent influence, he continues, may be abundantly proved by any one who will give the sulphides a trial. But Ringer is very sanguine, and not always reliable. I prefer 10 to 20 grain doses of muriate of ammonia. If the abscess increase much in size it may extend upwards towards the base of the skull, and downwards and outwards in various directions, when the signs of pressure on various organs will be added to the other symptoms. Thus, in Dr. Allin's seventh case, the abscess extended from the second to the seventh cervical vertebra; in the eighth, from the left side of the vertebræ to the right mastoid process; in the eighteenth, down into the thorax; in the nineteenth it was pressing on the cavity of

the larynx; in the twenty-first it extended from the cranium to near the thorax, and was pressing upon the larynx and trachea; in the twenty-seventh it burrowed behind the sterno-cleido mastoid muscle; in the twenty-eighth it was found immediately behind the glottis; in the thirtieth it had pushed down into the posterior mediastinum, and had burst by numerous openings into the œsophagus; in the thirty-fourth it had traveled down through the posterior mediastinum to the diaphragm; in the forty-first case a culde-sac of the abscess entirely filled the opening of the glottis; in the forty-second it extended from the second to the fifth cervical vertebra; in the forty-third, nearly down to the thorax, and along the right sterno-cleido mastoid muscle up to the mastoid process; in the forty-sixth, from the basilar process of the skull down to near the larynx; in the forty-eighth, from near the palate down behind the larynx; while in the fifty-first case it pressed upon the glottis and epiglottis; and in the fifty-fifth it extended down to the œsophagus.

Some of these severe cases were caused by simple exposure to cold, with or without any complication with erysipelas; others were induced by swallowing pieces of bone, which perforated the walls of the pharynx; and some were provoked by caries of the vertebræ and syphilis.

Steiner gives the initial symptoms as consisting of stiffness and pain in the neck and difficulty of swallowing, increasing in severity, followed by obstruction to the breathing, attended by a paroxysmal cough, or a dulled, nasal tone of voice, and immobility of the lower jaw. Finally, swallowing and speech become impossible, and the breathing almost so. On examination, a tense, round, elastic swelling will then be found in the pharynx.

Niemeyer wrongly attributes the peculiar stiffness of the neck to vertebral disease; and says, "In infants the restlessness of the child, its refusal to take the breast, its anxiety when compelled to drink, the attacks of coughing and chok-

ing, which interrupt the efforts at drinking, are apt to be referred to some primary affection of the larynx, like croup or laryngismus. This is particularly prone to be the case when there is also continued dyspnœa, and the child is hoarse or voiceless, while the cough has a croupy sound, which latter does not often happen. With these symptoms, it would be unpardonable not to examine the pharynx carefully, when the finger will usually encounter a tense, elastic tumor close behind the soft palate."

West places most stress upon the difficulty of swallowing, soon followed by that of breathing, accompanied with a peculiar sound in respiration, though not with the stridor of croupy breathing, nor the loud clangour of croupy cough. These symptoms are peculiarly aggravated by the recumbent posture, any attempt to assume which is followed by immediate threatening of suffocation. He also refers to the remarkable stiffness of the neck, and immobility of the head, which are present in many instances; and to the occasional occurrence of a distinct swelling of the lateral parts of the neck, that is more frequently apparent on one side than the other, without any attendant enlargement of the glands. In one case which West overlooked during life, because the swelling of the neck was not so tense as to lead him to think that pus was anywhere near the surface, a large quantity of thick, yellow pus poured out as soon as the superficial cervical fascia of the right side was divided in the post-mostem examination. He says, If the finger be carried over the root of the tongue and down toward the pharynx, a firm, somewhat elastic swelling will often be detected closing, more or less, completely the canal of the pharynx and projecting over the glottis so as to interfere with the access of air to the lungs. Sometimes the swelling is higher up and presses forward the veil of the palate; but sometimes it is so low down that it can not be brought into view, or the mouth can not be opened sufficiently to allow the back of the

throat to be seen, and the tumor can then only be detected by the finger. The difficulty and pain in opening the mouth are caused by excessive tension of the bucco-pharyngeal fascia. West also alludes to the fact that the dysphagia, which is usually so pathognomonic, has been slight in a few cases, and altogether absent in two; while occasionally no tumor can be discovered on inspection of the throat, nor reached by the finger. But these are extremely unusual occurrences. Of course the early symptoms vary according to the cause, seat, and direction which the disease takes. Brain symptoms may also mask them, and the true import of the dysphagia and difficult breathing are thus sometimes overlooked.

Dr. Allin places stress upon the presence of stiffness of the neck, followed by pain and soreness of the throat, and a peculiar feeling of continuous chilliness, as peculiar to the early stages of the disease, and to the frequent occurrence of œdematous swelling of the anterior and lateral portions of the neck. Sometimes this tumefaction is very extensive, and is supposed to arise from cervical cellulitis.

As the disease advances the pain and soreness of the throat are increased, and in older patients a peculiar feeling of fullness about the fauces, as if a lump or foreign body was arrested at the base of the tongue, is experienced, together with great difficulty in swallowing. In the course of a few days or more the respiration commences to be noisy, labored, and irregular. Sometimes there is only a slight snuffle, at others it is a hissing, stertorous, or roaring noise, or accompanied with a gurgling sound, from the passage of air through the viscid mucus which collects about the fauces. The voice is very much changed, becoming markedly nasal and resembling that arising from cleft palate. If the disease is not now recognized, and the abscess promptly opened, all the symptoms are rapidly aggravated. The dysphagia becomes very severe, food and fluids are ejected from the mouth or

through the nostrils; the labor of the breathing is greatly increased and interrupted by frequent convulsive paroxysms of dyspnœa or suffocating cough. These attacks are apt to be induced or rendered more severe by attempts to swallow, or by assuming the recumbent posture, in consequence of which the patient is obliged to remain sitting up. During the attacks of oppressed respiration the face is flushed or dusky, the head is forcibly thrown back between the shoulders, the lips livid and cold, the tongue protruded, and the pulse exceedingly rapid. It is in this stage that the disease is most frequently mistaken for croup, laryngitis, or œdema glotidis, but the peculiar crowing cough of croup is never heard, while the dyspnœa increases gradually in severity, and is always preceded by difficulty of swallowing, which is seldom urgent in croup. The increase of dyspnœa by pressure on the larynx and on lying down, is also very much greater in retro-pharyngeal abscess, and the peculiar nasal or guttural speech is very different from that of croup. Still, in old times tracheotomy was frequently performed, and the abscess entirely overlooked during life. It has also been mistaken for œdema of the glottis, but in that disorder the dyspnœa is most urgent during inspiration, while the difficulty of breathing in pharyngeal abscess is more continuous. Œdema of the glottis is marked by a soft swelling felt just at the base of the tongue, while the swelling of abscess is hard and elastic, is situated behind the larynx, and extends in nearly every instance above the level of the glottis, while the veil of the palate is generally spread over the tumefaction of the pharynx. When the termination of this abscess is fatal, it is almost always from asphyxia, by compression on the larynx. Before this happens the pus may even separate the alæ of the thyroid cartilage of the larynx, which separation may sometimes be detected by external examination.

The most rapid formation of retro-pharyngeal abscesses is

caused by septic cellulitis. Mondieu, Piron, and Allin have met with cases arising from the retrocession of erysipelas. One of West's cases occurred after scarlet fever, and the abscess passed up behind the pharynx quite to the base of the skull, and down behind the œsophagus to within little more than one inch of the clavicle.

Dr. Fleming, in 1840, asserted his belief that a very frequent source of these abscesses was an acute inflammation of the small lymphatic glands behind the pharynx. These glands are often absent, or incompletely developed. Dr. Fleming thought that these facts would account for the rare occurrence of this particular form of disease. Dr. Allin's ninth case had suffered from enlargement of the cervical glands, and his twenty-second, twenty-fourth, forty-first, and fifty-fifth cases were supposed to be scrofulous. It is barely possible that some external indication of glandular disease may be detected; but sometimes when these abscesses have pointed at the angle of the jaw they have been mistaken for indurated glands; also in the parotid region. In the forty-seventh case the glands of the neck became much enlarged at a later period.

Eight of Dr. Allin's cases were caused by injury to the pharynx by swallowing fish and other bones, and in some of these the anterior surfaces of the vertebræ and intervertebral cartilages were also injured.

Caries of the cervical vertebræ was the starting point of the disease in about one-tenth of all the cases. It is well to note that in the so-called disease of the vertebræ the mischief, wherever seated, almost always commenced first in the intervertebral substances, and the bones became secondarily affected. According to Dr. John Foster, when the region of the cervical vertebræ is first involved, there is a peculiar stiffness and uneasiness about the whole region of the neck, and an indisposition to turn the head to either side. The muscles seem on the alert to restrain any motion. There are

also obscure pains about the neck, extending over the occiput if the upper vertebræ are affected, or downwards over the shoulders and arms when the lower vertebræ are involved. The latter is the least frequent form of the disease. Thickening and tenderness are sometimes found, generally high up over the third or fourth cervical vertebræ. There may also be some fullness about the junction of the neck with the occipital bone, which is very characteristic when found, and is due to œdematous effusion in and hypertrophy of the cellular tissue around the deep-seated muscles. At this stage the affection has been mistaken for simple torticollis, as it was in the Solon case (Allin's 16th). But in wry neck the head is more drawn to the side, and there is an absence of tenderness over the spine. In diseased vertebræ, if the child is lying down and wishes to rise, it invariably puts its hands to its head to lift it up, while the surgeon will find, if he places his hand on the top of the child's head, that he cannot rotate it ever so slightly without causing severe pain. As the disease of the spine progresses, paralysis is apt to occur. An abscess forms in some part of the neck, just as psoas abscess is caused lower down, and generally points in the pharynx, or in the side of the neck between the scaleni muscles, or above the clavicle, or into the axilla or mediastinum. In cases of this kind the cavity of the abscess is apt to follow a more extended route than is usual in the acute form, except when this arises from septic cellulitis. In diseases of the vertebræ and their cartilages, the pus must first penetrate the anterior vertebral ligament, which is a strong band extending the entire length of the vertebral column from the basilar process of the occipital bone to the end of the coccyx, for the matter does not often burrow down behind it very far. This has led to the belief that in some cases the disorder is caused by injury to this ligament by sudden wrenches or strains, or by lifting a child up by its head, and that the pus makes its exit at the strained or

lacerated or otherwise weakened portion. About five per cent. of the cases arise from syphilis, and here the iodide of potash and mercury are the best remedies, but it is very probable that they will be found useful in a much larger class of cases, for Dr. Edward Stanley speaks in the highest terms of the benefits of mercury in osteitis and periostitis, even when attended with paralysis. Sir Benjamin Brodie and Drs. Latham, Burrows, and Markoe testify to the same effect. Nothing is further from the truth than that caries is always a scrofulous affection, while mercury is no more contraindicated in it than in any other inflammatory or asthenic disease. It is said to be particularly appropriate in sclerosis of bone, or connective tissue. Stanley sometimes preferred corrosive sublimate in tincture of bark, but I prefer the muriate of ammonia.

Phosphate of lime is recommended in caries and some wasting diseases as a most valuable and necessary food, being probably as essential to proper growth and nutrition as iron, and the nitrogenous and fatty foods. It gives solidity to the skeleton, and if the supply of it is too small the bones lose their hardness and easily become diseased. A certain quantity of the phosphate is required to supply the first basis for new tissues. In the normal state it is present in the intercellular fluid in greater quantity than in the body itself; and wherever cell growth is active it should be in excess. It is required in defective nutrition and deficient cell-growth, and in chronic, wasting diseases, large abscesses, scrofulous sores and caries of the bones, especially when combined with the pyro-phosphate of iron.

Stille also recommends lime in caries. Iodine was strongly recommended by Lugol, on the mistaken supposition that caries was a scrofulous affection.

Iodide of potash is regarded as almost specific in periostitis, and often acts like a charm. In seventeen cases of syphilitic caries and necrosis, six were cured, four relieved, and seven

received no benefit; the latter probably because the doses were too small, as the doses were only eight grains three times a day.

Cod liver oil proves eminently successful in caries of scrofulous subjects. Bennett cured one case with eight fistulous passages, leading to diseased bone, accompanied by fetid and profuse discharges, and an advanced state of hectic. Balman says it exerts a most beneficial influence. The combination of cod liver oil with phosphate of lime is probably the most useful. Tauflieb used it successfully in an immense lumbar abscess, attended with paralysis of the legs. The recovery was perfect. H. C. Wood says cod liver oil is especially useful in conditions of the system, marked by a general, lowered tone, a tendency to cellular hyperplasia, and the formation of exudations composed of imperfectly developed cells. If these undergo slow degeneration, with dessication, cheesy deposits are formed; while if a rapid, fatty degeneration, with abundance of moisture, pus and abscesses are produced, and ulceration is the final result. It is in these states that cod liver oil is so extremely useful, especially in the early stages when marked by weakness, a tendency to emaciation, with more or less anæmia; and its effects are equally well marked in the ulcerative and suppurative stage. There are various diseases of the bones dependent upon this state, either proceeding from disease of the cartilages and articulating surfaces, or from the spongy tissues, followed by caries and subsequent abscesses, in which cod liver oil is almost a specific; also in the cachexia of tertiary syphilis. Equal parts of glycerine and a few drops of bitter oil of almonds lessens the disagreeable taste.

Phosphoric acid, glacial, ʒij to iv., dissolved in ten ounces of water, in tablespoonful doses every three hours, has abated the fever and hectic of caries, and effected cures. Frank reports several cases.

XUM

Assafœtida in drachm doses once a day, for weeks and months, once had quite a reputation.

Fluoric acid and soluble silex have been recommended.

Mezereum is more useful in chronic periostitis than is generally supposed.

Belladonna, by its drying qualities, is practically useful in arresting suppurative inflammation; and sarsaparrilla deserves attention in chronic cases.

ART. IV.—*On the Use of Electricity in Follicular Pharyngitis.* By P. FRANK BEVERLY, M.D., Westerville, Ohio.

[Read before the Central Ohio Medical Association.]

We desire to call the attention of the profession to a disease, perhaps, the most common in this locality of any departure from normality to which our attention as medical men is called, and our skill challenged, namely, Follicular Disease of the Throat and Air Passages.

I venture to assert that four-fifths of all cases of throat trouble which may come under our care present, in a more or less marked degree, granulations on the pharynx, velum, pillars of the fauces, tonsils, or upon all of these parts. Sometimes these small glistening bodies are no larger than the head of a pin, covered over with thick viscid mucus, somewhat grayish in coloration, or of a whitish tinge, like that which comes from the bronchial tubes at the commencement of an acute inflammation of the latter structures. We have seen these glistening bodies without concomitant trouble in the naso-pharyngeal space, or in the mucus lining of the inferior portion of the pharynx, or the larynx itself. Frequently, however, these granulations appear to be but the continuation of a similar condition which exists above the soft palate. They are then very much more enlarged and of different shapes—rounded, oval, oblong, in a vertical direction. These granulations accompany all sorts of diath-

eses, syphilitic, scrofulous, tuberculous, and in men and women of all trades, occupations, and professions. The affection occasions but little inconvenience in some persons, being found when the patient makes no complaint of any trouble in the throat in some instances; in other cases it occasions considerable annoyance, a constant effort to clear up the throat by hawking and coughing; again, we have noticed these granulations in throats where there are very noticeable proofs of a heightened degree of sensibility, and where the voice was very hoarse and discordant, reduced to a whisper, or entirely lost. Now, how should we interpret these seemingly incongruous facts, and what is the real pathological signification belonging to them? Evidently it is not in the granular condition that we should look for the explanation of all the morbid phenomena which show themselves in follicular sore throat. There is something beyond, and more philosophical to be considered. This disease does not seem to be brought about by any occupation or profession, nor due to any particular accidental circumstance or combination of conditions, although of some degree of permanency. No doubt public speakers, who use the voice almost incessantly, in close rooms and in open air, in high and low temperature, miners and chemists, who inhale poisoned and deleterious vapors or organic particles of a hurtful or pernicious kind, may increase a morbid state already manifest, but much more essential to the primary production or development of follicular disease is the diathetic or constitutional tendency which is usually, if not always, present in such cases.

Furthermore, there would seem to be some relation existing between the granular condition of the throat, and the herpetic disposition so frequently manifesting itself by eruptions upon the integument, arising from indulgence in certain kinds of food, as shell-fish, cheese, salt meat, spices, etc., at least eczema, psoriasis, pityriasis, etc., may be aggravated

by partaking of dishes containing these ingredients to any extent. So the professions and occupations before mentioned, the use of tobacco or alcoholic stimulants, even in moderate quantities, exposure to damp and cold, and the inhalation of irritating substances, will notably accentuate and increase the outward manifestations of the diathesis, in which granulations of the pharynx are so prominent a feature. In well marked cases of the disease we frequently meet with difficulty of swallowing, and an intolerance of hot or acid food or drink; again, these sensations have shown themselves spontaneously, and without intercurrent disease of the crypta, and were not aggravated in any appreciable degree by the contact of different kinds of nourishment, or by the effort of deglutition.

Occasionally there is well-marked periodicity about the return of these follicles. These phenomena, which may change and transform themselves into all varieties of curious and unpleasant subjective feelings, to which the patients apply terms expressive of personal conceptions of their exact nature, are not alone encountered in individuals of a peculiarly nervous temperament. We have heard strong, robust men complain as well as others of more feeble constitution; and there seems to be an intimate relation between the condition of the pharyngeal mucous membrane, when chronically inflamed and thickened, and this local hyperæsthesia of the implicated parts. No doubt the painful condition of the nervous filaments which are distributed to the pharynx is to be found in connection with other evidences of great or general nervous derangement. We would not attempt to deny that in other throat affections there are complications of nerve trouble, for in certain forms of erythematous sore throat, and diphtheria, and erysipelas of the fauces, we have met with grave nerve complications, which would even seem to be the original lesion, in which the pharyngeal plexus of nerves were so paralyzed that deglutition was impossible,

and there was contraction of the muscles of the spine and extremities from reflex action of the pneumogastric nerve. But in follicular disease the neurotic element, or complication, is more manifest when taken in contrast with the more clearly defined inflammatory type of the other throat affections before mentioned. In some cases of the disease under consideration, of long standing, one side of the posterior pharynx may be seen to be tumid while the other side is contracted, and other cases are so thickened and hyperemic as to apparently shut off air and food; and in other cases the sub-mucous and muscular layers are both partially absorbed. Occasionally too, the mucous membrane is so much thinned that we are able to perceive the muscular striæ underneath it. These results do not appear to be altogether analogous to those which we encounter as a result of ordinary chronic inflammatory disease.

There appears to be a sort of special anatomical infiltration in the beginning, and afterwards an attrophic degeneration of tissue, which is closely allied with the existence of hypertrophied or otherwise morbidly affected glandular follicles; and whenever these glands become ulcerated, as they frequently do, we believe that this ulceration may be explained by the want of nerve force generated in those peripheral extremities where there exists a condition of interstitial neuritis, and owing to the consequent thickening so produced, compression is exercised to such a degree upon the nerve fibers that their function is more or less absolutely abolished. Not only is the pharyngeal plexus thus affected, but the nerve trunks which go to form it, and thus we are enabled to account for the hyperesthesia and paralysis which pass within the throat and larynx and manifest themselves in the ear or other remote organs.

As illustrative of the pathology advocated in this paper, a few cases may properly be cited. Mr. F. W., a student, of close application and sedentary habits, of bilio-nervous

temperament, had suffered from dyspepsia several years. When he came under my observation he had well-marked follicles in the pharynx, thickening of the Schneiderian membrane, partial aphonia, neuralgia seemingly of the auditory nerve, and a feeling of general prostration incompatible with the local lesion. The treatment was iron and quinine and phosphorus. Also—

℞. Sub. Nit. Bismuth, ʒj.
Hydrastine, grs. x.
Glycerine.
Comp Tinct. Cinchonæ *a a*, ʒiv.
M. A tablespoonful before meals.

Also electricity applied to back of neck, and tongue and throat, and directed nourishing diet and open air exercise. At the end of two weeks his convalescence was fully established; that is to say, Mr. W. was so far relieved of all before stated symptoms as to be able to resume his studies. Now this case proved to me that the aphonia and ear pain were the effects of the connection between the ear and the larynx through the auricular branch of the superior cervical ganglion of the vagus. This auricular sends off two minute branches to the meatus auditorius, as described by Arnold, and one to the membrani tympani, alluded to by Sappey. Dr. Robbinson, of the Eye and Ear Hospital of New York, says, in connection with this subject: "All medical men are familiar with the cough produced by introducing an ear speculum, probe, or other foreign body into the external auditory canal." He says this physiological phenomenon is satisfactorily accounted for by reflex action of the vagus.

Miss M. C. presents a well marked catarrhal constitution; that is, all the symptoms in this individual manifest a peculiar tendency to exalted hyperemia of the mucous membranes, with a peculiarly cadaveric complexion, and very enfeebled constitution; has been under treatment off and on

all her life. I have been her adviser for eleven years, frequently examined her throat and often found it studded with granulations, and sometimes free from them, but pale, spongy, and thickened. For several years past she has been attacked in the month of February with complete aphonia, pain in the ear, dysphagia, pain in stomach, and bowels, and spine, and extreme prostration. After trying a large variety of drugs with unsatisfactory results in her case, I have for three years past invariably commenced at once, when called to see her, with electricity, applying it to the spine and over the pneumogastric nerve, and to the tongue, which invariably restores her voice; by this is meant that after using most topical applications previously, that are thought to be restorative, electricity has acted so much more efficiently that they are left off. Iron, quinine, and so forth, pretty much as in the former case, eventually, that is, after several weeks straightens her up. These two cases (though many more could be related), taken in connection with the arguments before produced, appear to us to be satisfactorily interpreted, if we may suppose that anæmia of nerve tissue on the one hand, congestion on the other, can produce in man accurately defined symptoms.

Art. V.—*The Curative Relation of Measles to Whooping-Cough, with some Observations on the Epidemics of Measles and Whooping-Cough in the City of Zanesville, Ohio, Spring and Summer*, 1877. By Z. C. McElroy, M.D., Zanesville, Ohio.

Reported at session of the Muskingum County Medical Society, held in the city of Zanesville, Ohio, June 14, 1877.]

Early in the spring cases of whooping-cough began to be noticed in the city, or, at least, cases of cough, not amenable to ordinary treatment, made their appearance late in the winter. True, the characteristic whoop, or spasm, was not at all a prominent feature of the cases.

Six weeks or two months ago fully one-half the children

in the public schools were coughing, many with the unmistakable whoop. Now, a child without cough is the exception, not the rule.

Very severe cases have been rare within the scope of my observation. A few cases would have two or three bad days and nights, then commence improving; this, aided by treatment, however. Several times I have noticed children stop on the sidewalk, go to the curb, have the spasmodic whoop, throw up a mouthful of mucus, and then pass on.

Two weeks since I noticed the first case of measles, superadded to whooping-cough, in the same individual; since then several more. The measles, or fever and eruption, diagnosed as measles; have been very mild, and running a very rapid course, in the main, without complications in children two years of age, to recovery. Some very young children show, speedily, pneumonia, or cerebral complications, or both, ending in death. But in the bulk of cases they pull through to recovery.

The remarkable feature of these duplex cases is, that with the subsidence of the apparent measles, the whooping-cough seems to come to an abrupt termination. The measles seems to have "swallowed up" the whooping-cough.

The children seem to resume health almost immediately, though there is to be remarked more or less pallor of surface and furred tongue, persisting after the cessation of the fever movement, and return of appetite.

I have had more satisfactory results in remedial management, with large doses of pow'd ipecac than with any other medicine. Three or four days with ipecac (three to ten grains each dose), and not oftener than morning and at bed time, daily, followed as many days by Dover's powder or Dover's powder and quinia, seems to substantially end the cough in some instances.

I have been using belladonna in some cases with apparent benefit; have given as much as five grains extract per twenty

four hours to children from four to eight years old, without much disturbance of pupils, but with a marked decrease of the spasmodic cough.

But the remedy, *par excellence*, according to my observation, has been the measles. Nor need this be considered strange. In a paper I read to this Society a dozen years ago, on "The Curative Relations of Vaccination to Pertussis," I called your attention to the fact that vaccination in children with whooping-cough, if successful, carried the whooping-cough through to termination at its own speed; that when the subjects of whooping-cough were successfully vaccinated, the whooping-cough and vaccination disappeared together. Measles has, so to speak, a definite speed, while whooping-cough can hardly be said to be a febrile state at all without complications; though cases of whooping-cough, with more or less fever, are by no means rare—in fact, rather common.

Since that time cases of chronic syphilis have been reported as cured, both by small-pox and erysipelas. So certain have I regarded vaccination as the remedy for whooping-cough, that I have rather held vaccination in reserve for many cases, to be performed when whooping-cough occurred. In the very case on which my report this evening is in part based, I had held out against vaccination until the small-pox flurry last fall, when I had to vaccinate, not in accordance with my judgment, but to satisfy a public pressure.

But it never occurred to me, at any time, that measles would prove, if anything, more effectual—though, if severe, with rather more hazard to life—than vaccination, though neither are, by any means, to be considered altogether safe, for deaths occur from all them, viz., whooping-cough, vaccination, and measles.

As therapeutists, we pit one remedy, so to speak, against another; or, perhaps it would be better to say, pit one drug or medicine against another designated as poisons. Thus, the antagonisms of opium and belladonna are well ascer-

tained facts in therapeutics; each is a reliable antidote to poisoning by the other.

The production in a living body of what we call disease is brought about in the same way as what we call the effects of medicines. The processes of waste and repair of structure, or the dynamic capacities of structure, must undergo modifications, as an essential condition, for the existence of what we call disease. In exactly the same way as antagonisms are said to exist between drugs and medicines, does antagonisms exist between so-called diseases; and it seems to me we may add, as the results of both observation and experience, that rubeola is an antidote to pertussis.

In the discussion that ensued, Dr. Nye said Dr. McElroy's idea of the antagonism between measles and whooping-cough was to him an entirely new thing—a surprise. He knows that vaccination is employed to shorten whooping-cough, but that measles shortened it too, was altogether new. He can not see where we are to get the measles when wanted, like vaccination. Many years ago, in his own family, he had several children with whooping-cough, for which he gave a syrup of garlic, and always thought that was what was doing the work, though he had vaccinated them, and he noticed that the whooping-cough ceased as the vaccination declined. At that time he never dreamed that it was the vaccination that did the work, but is now satisfied that it was.

Dr. Holden has but little to say; it is a new idea to him; has not found that measles benefited his whooping-cough patients; does not know why; some of them have recovered from the measles, but continue to bark away; does not believe in it, and thinks there is no treatment that will cut whooping-cough short—not even vaccination; has faith in a dilute solution of quinine; thinks the ipecac treatment of no account, and that simple whooping-cough needs no treatment.

Dr. Holston would not like to prescribe measles for whooping-cough; considers a case made worse by the measles; more danger of the lungs becoming affected; thinks that simple whooping-cough is not dangerous; believes vaccination will modify it, and that chloral and belladonna are the best remedies; ipecac, no matter in what sized doses, will not modify it.

Dr. Ball thinks the subject interesting at this time; measles do not modify whooping-cough when complicated with local inflammations; considers ipecac the best remedy in the early stages, followed by chloral at night; uncomplicated cases need little or no treatment, and, when complicated with pneumonia, are quite serious, and need active treatment; as regards vaccination, has had some experience this season, and found that it had a very decided effect; should give belladonna in full doses; has also used inhalations of slacking lime; thinks belladonna and chloral the best remedies.

Mrs. Johnson has had little experience, except among very young children, and no severe cases, and no complications. Had a case of whooping cough, in which the little patient had intermittent fever; when the fever was interrupted the cough was gone. Does not consider it a test case, as the child had had whooping-cough six weeks when the fever occurred. Used external means, ointments, glycerine, gin, etc. Has had no success in abating it by belladona.

Mrs. Peabody said her two children had whooping-cough several years ago in the winter. She treated them by porous plasters applied to the chest and spine. Wore them until spring, and they got well.

Dr. Lazelere said the difficulty has been in regard to the pathology of whooping cough. He thinks all physicians treat it empirically. The pathology is through the pneumogastric nerve. In Mrs. Peabody's cases, the external treat-

ment operated through reflex action, and is, therefore, intelligible. He understands that the author of the paper takes the ground that measles is an antidote to whooping-cough. He is mistaken in regard to his observations; they won't bear the test of logic. It is an axiom in medicine that two diseases can not exist at the same time in the same individual. From his own observation he concludes that measles have not modified the whooping-cough in any case whatever. In his own family a child has had whooping-cough, now in the fourth day of measles, with no modification of the cough. Dr. McElroy has not been careful in his observations. He never vaccinated for whooping-cough. Don't think simple whooping-cough needs much therapeutics.

This subject was continued over to the July session, at which Dr. McElroy made the following report:

Dr. McElroy said that since the last session the whooping-cough had continued to prevail in the city, many new cases having appeared. And measles, too, had continued to spread. Since his report last month he had carefully observed the cases coming under his notice in regard to measles communicating its own speed to whooping-cough. Is still more thoroughly convinced of the correctness of his report last month. In only one respect has he had any occasion to change his conclusions, and that is in respect to the novelty of the fact that, so to speak, measles cures the whooping-cough.

No mention of such a fact can be found in the medical works he has examined, and it seemed to be a new thing to the members present. He had found, however, that it was not new among all the people. He has found many who knew that "measles cured whooping-cough." Some knew it from having seen it, but with more it was a tradition.

He had found several cases not bettered by measles. In them the measle eruption only lasted two or three days.

The eruption was scanty, and with but little elevation of temperature. They were what would be called mild cases, or, rather, imperfect or doubtful cases of measles, though presenting scanty and imperfect eruptions.

Nor does he doubt the experience of other members of the society, though contrary to his own. Was it a uniform sequence, it would have been noticed before, and found its way into the text-books. It seemed to him that in the cases of failure he had studied, that the whooping-cough was simply the stronger of the two perturbating influences, and therefore was apparently undisturbed by the measles in any respect.

But still the fact remains, that in by far the greater number of instances the measles communicated its own speed to whooping cough during the present epidemic in our city.

Dr. McElroy said that his confidence became so strong that he had prescribed the measles for whooping-cough in several instances, advising parents to send their children where it was prevailing, and in several instances designating where to send them; that in several instances his requests had been complied with, and ended to the satisfaction of both parties.

He also stated that it must not be forgotten that both epidemics prevailed in mild form; that the mortality had been among very young children, and mainly from complications of the brain and lungs. What he desired was simply to state the facts as they had occurred under his observation the present season.

He remembered reading in the American Journal of Medical Sciences (July, 1862, October, 1862,) a very interesting paper on the influence of wheat-straw fungi in the production of measles, or, a train of symptoms which could not be diagnosed from measles; and suggesting that as the probable source of "camp measles," then so prevalent in the army, and often proving fatal, or permanently disabling soldiers so

as to lead to their discharge. The articles attracted but little attention at the time of their publication, and none since that he is aware of, though returned soldiers often told him that from about that time, viz., at the close of the first year of the war, they were not allowed to use straw to sleep on in their bunks or tents.

It seems to him that it may be possible by means of wet wheat-straw, or other means not now known, we may be able to command measles when wanted, just as we now command vaccination.

The pitting of one "disease" against another, as poison and antidote, was a "new departure" in practice, which may lead to very good results. Sufficient data have already been accumulated to warrant the inoculation of chronic syphilitic patients with small-pox virus.

When looked for, other and unexpected good results may flow from such remedial proceedings as prescribing measles, with high speed, temperature, to, so to speak, cure whooping-cough, with slow speed and indefinite duration; that is, communicating the speed and definite duration of measles to the slow moving and indefinite whooping-cough.

ART. VI.—*Appendix to an Article on the Introduction of Cholera, etc.* By JOHN C. PETERS, M.D. (See No. III., p. 206.)

The failure of Dr. Pettenkofer to unravel the so called mysteries of the disastrous, if not disgraceful, outbreak of cholera at Lanfer could easily have been predicted by any careful student of his former writings. If cholera breaks out in the sleeping-rooms on the third story of a prison, it is not absolutely necessary at once, and to the neglect of almost all other precautions, to investigate the depth of the subsoil water; nor to allow the diarrhœal cases and their soiled bed and body clothing to remain in the wards until

actual, unmistakable cholera shows itself. It was also not necessary, much less seemly and prudent, to wash the night-pails and excrement-tubs of over four hundred convicts with water from, and quite near, the only well which supplied drinking water; nor to allow all these filthy washings to run down into a drain which flowed quite close to this well. In dormitories in which a portion only of the inmates were attacked it was quite important to note the location of the beds, whether near windows or privies, and whether their occupants were inhaling pure or foul air at night. Pettenkofer merely says: "I am sorry that I noted down, at the time, only the dormitories, and not also the position of the individual beds in each case, as it appears very desirable that this should be done in all future cases." We should think so. Still, we learn that in badly ventilated rooms, with only one window, from twenty to twenty-five per cent. were attacked, while in those with three or more windows only ten per cent. were affected; and in one set of men, the joiners, who worked and slept in badly situated and affected rooms, no less than fifty-six per cent. were attacked, while in those who worked in healthy, distant rooms by day, and slept in unfavorable rooms at night, about twenty-eight per cent. were attacked. The rope-makers worked in the open air by day and slept in a good room at night, and had only three cases of cholera and one death. The military squad, seventy in number, who had separate privies and slept in isolated barracks, escaped entirely. The guard, also, did not use of the water from the well in the hospital court-yard, the opportunities for pollution of which Pettenkofer says were many, as the cesspools near it were not water-tight, and there was also much cleaning and scrubbing, even of privy tubs, about it, and very much dirty water was poured into the sinks and drains close to it throughout the whole year. The prisoners took water from this well every evening, in wooden pails and pitchers, to their sleeping-rooms,

where they washed their faces and hands next morning. Their under-clothing was changed once a week, on Saturday evening, and this dirty linen was kept on chairs at the bedside all night, in order to be delivered up on Sunday morning. The sheets on the beds were changed once in four weeks, and the straw mattresses re-shifted three times a year. The blankets were cleaned once a year, and feathers from time to time. Yet Pettenkofer is astounded that cholera prevailed in these wards!

In contrast to Pettenkofer's confused account, we have a simple and clear account from another Bavarian prison, at Rebdorf, by a comparatively unknown but honest and clear-headed man, Dr. Lutz. On the 20th of November a prisoner arrived from Munich, where he had been in an infected prison for five days, during which time cholera had prevailed and deaths had occurred. This prisoner had slight diarrhœa in the Munich prison, which had been controlled with tinct. rhatany and opium and cinnamon; but it returned the day after his arrival at Rebdorf, when he was removed into the hospital ward, and from thence into an empty room. He died before rice water discharges occurred, and his urine was entirely suppressed. His bed and body linen were disinfected, and then his bed. But these precautions were taken too late; for in seven days a washer, a cleaner, and a hospital patient were attacked, and the two former died. The washer had washed the convict's clothes on arrival, before they were disinfected, and the cleaner cleaned the room into which he had been taken. There were three hundred and ninety-three prisoners in all; and, although the promptest measures were taken in the course of the next forty-eight days, thirty-four were attacked, and twelve died. Every case so-called gastro-intestinal catarrh and diarrhœa was at once taken in hand and removed to separate rooms, and the most thorough cleanliness and disinfection carried out. Of the five wells, two were used for drinking and cooking water, and carefully protected; two were devoted to washing purposes,

and for the cattle. As soon as a case of cholera occurred in the dormitory it was emptied and fumigated. The cases generally occurred in adjoining beds, and were surrounded by others with diarrhœa and intestral catarrh. Finally, it was noticed that the blankets seemed to convey the infection, and they were more carefully cleansed, and not taken into use again. Diarrhœa wards were appointed, and that off from the other rooms and halls; as fast as cases of cholera disclosed themselves they were removed to separate cholera wards. All soiled clothing was put in zinc and chlorine water, then fumigated with sulphur, and finally washed by special washer. The chamber-pots and privy-pails had large quantities of sulphate of iron and carbolic acid put in them; were washed in special places, and the whole contents buried in distant, well-disinfected pits. When a cholera patient became convalescent he was removed into another clean room, which had previously been fumigated with marganese and sulphur. The bed and body clothes of the dead, and the bed pillow-cases and sacks were burned; the blankets were dried, fumigated, and not taken into use again for a long time. Dr. Lutz was able to track down all his cases to their sources. There was no mystery about them which a little industry and intelligence could not unravel; and the disease was stamped out with little loss.

ORIGINAL LECTURES.

ART. VII.—*Lectures on Insanity.* By DANIEL H. KITCHEN, M.D., Chief of Staff of the Hospitals on Blackwell's Island, New York. Delivered at Charity Hospital, during October and November, 1876.

LECTURE III.—MANIA.

[Continued from page 256.]

The starving intellectual centers for want of emotions caused by outward influences being properly received, and which is the basis of all trouble of the melancholic, become

ravenously hungry and thereby savagely mad. "Enough of this prison; I will take what is denied me, here, there, everywhere, no matter what, one thing, many things, all things, in order or out of order, singly or together, separately or mixed, or in isolated fragments." So says intelligence, so it acts accordingly, thinks accordingly, and does things accordingly. Man is now a maniac; his "I am" is set free, but like a long imprisoned animal is wild, his previous depression changes into excitement, his self-feeling into exaltation. There is no more controlling this exaltation of self-feeling; like a runaway horse, it dashes here and there with fury, until it breaks down shattered and a wreck, never to revive again unless a God-sent accident stops its career and makes it return home sound and sane. Such is mania. Is it possible, under the circumstances, to describe a typical case or to give all the symptoms of this form of insanity? Hardly so. We may say the patient sings, talks, dances, jumps, runs about, destroys, tears clothing, acts the clown of the pantomime, and does all and everything extravagantly foolish and with foolish extravagance, and still it is merely an approximate description of a maniac.

What has been said in the last lecture on the cause of the great variety of insane manifestations, is applicable to mania as well as melancholia. The character of the old predisposition to physical anomalies as existing in the subject before the outbreak of mental alienation now shows itself, and the old proverb, "children and fools speak the truth," is verified. The old diathesis to a specified crookedness of mind was, during health, under control of the will, now it is out of it.

We have two groups of mania, the one where the derangement is characterized by the movements, conduct, and thoughts, being of a general incoherent nature, without regard to objects, place, or circumstances, and termed usually *acute mania;* the other where the derangement partakes more

of a system, and the actions and thoughts are in response to *one* or only a *few*, but definite delusions. This is called monomania, and is usually *chronic*.

The state of melancholia which invariably precedes, more or less apparently, all cases of mania, appears to be in a kind of lull; the patient seems anxious or even fearful as of an approaching storm. Suddenly the emotional, or what Maudsley calls the affective life, ceases to be under control. What during the stage of melancholia induced the suppression of predisposing inordinate acts of previously healthy and rational man, is now fairly deserted, and a quite opposite mental and moral manifestation takes place. The morbid impulses lead him to the contrary of what he has been, and a state of delirium brings him to all inordinate actions previously controlled. A miserly man becomes extravagant, affection changes to indifference, mildness of temper to violence, and rationalism to bigotry. Patient is extremely lively, a busy-body, restless, and does everything beyond measure. Hence all moral or immoral acts are carried to extremes, and symptoms such as excessive sexual indulgence, swearing, extravagance or the reverse, great piety, belief of apostolic callings, etc., are not uncommon. Strong impulses, destructiveness, suicidal and homicidal propensities and others are now not only being thought of but executed, and provocations meet with opposition, violence, and blows; instinctive feelings of propriety are often lost, pleasure is found in the filthiest acts, such as besmearing themselves with their own fœces, eating dirt, acting with great indecency and lewdness, and the most refined minds become the most disgusting; the intellectual faculties are unsteady and wandering, the answers and speech incoherent and never remaining upon the subject, but rambling from one to another, and all kinds of ideas follow in rapid succession.

The facial expression differs according to the character of ideas and the extravagance of conjectures; often the expres-

sion changes rapidly from anger to benevolence and from resentment to gratitude. The whole external man shows what is going on within him, and as innumerable the delusions and thereby the acts and thoughts, as innumerable are also the facial expressions. As pretty constant symptoms we, however, find flushed features, congested eyes, discolored hair. To give you a slight idea of the inability of the patient to fix his mind upon or to adhere to one idea, may form part of the following letter of a patient, as given to Dr. Sankey:

"My Dear Sir and Mrs.: We have asked him and (to-day written for the Prince of Wales grant of 1862) which we never then refused, but as a bird in the hand is worth two in the bush, we on the 5th of November day capably carried a law case, and the judge's judgment was the money to be paid forthwith Daily bread and common sense depended upon the recovery of £10 suit on hand—Ladies could not encounter a London crowd thro' whether the greater sum, 40£ or £ per annum was said to be available, having received no written order, how could you go through a thicket without a ticket, as upon all such occasions the police Pass. We knew before we came here the grant was said to be placed at the disposal of an English and Continental lawyer in a representative law case, of which Prince John of Saxony, under reported slander of my character, wished to be unconsciously the respectable head, of course we refused his kindly desire to aid, and judicially with it, which was groundless and childish. Retrospectively and prospectively looking at our present history, we say let friendship take place of representations and necessitations, as money is our friend in the king's coin."

I may here incidentally remark that letters from the insane are often of value to the superintendent of an asylum as a means of convincing relations of a patient of the state of his sanity. *These* generally tell the truth.

Other symptoms of mania are:

Pulse accelerated about fifteen beats per minute more than in health, often more yet, and very variable. When the state of excitement has continued for a while the pulse falls to almost a normal rapidity. The temperature of the body is slightly increased, and when connected with a typhoid state, is increased as much as three to five degrees.

Sleeplessness is almost always common, the patient being noisy during the night.

Digestive system more or less impaired, particularly when the patient eats all sorts of filth, etc., the tongue is usually red, with prominent papillæ, but sometimes coated and foul. Constipation is common, or if not, there is persistent diarrhœa.

Skin, either dry and harsh, or else what is more common, moist, and of offensive odor.

Breath is also offensive and sour.

Urine.—During excitement the flow of urine is diminished and deep in color, with sediments.

Sexual excitement is not present, and the menstrual discharges are often suppressed.

Appetite is rather excessive, a very few refuse food, but not for a long time.

Nutrition.—On account of the constant muscular efforts, as well as mental activity without adequate digestive powers, the patient grows gradually thinner, and, in some cases, marked emaciation takes place. Although this gradual loss of flesh need not occasion any alarm, we must watch for a sudden exhaustion and collapse of a maniac, particularly in the early stages. It may here be remarked, that when that exhaustion leads to a fatal termination, all mental symptoms generally disappear, and the patient dies conscious of what is going on around him.

Pupil.—A change in the size of the pupil has been ad-

vanced by some authors, but it is so uncertain that no value can be placed thereon.

The *course* of the disease is very variable. We meet with many cases where an attack of mania remits for a time, to resume again with its original force. Cases of complete intermission are also not rare. Often patients make regular yearly calls to the asylum, and usually are perfectly cured again after a short stay ; but, generally, the fourth to sixth relapse proves either fatal or lapses into a chronic state. Sometimes attacks of mania alternate with melancholia. Any one attack of mania can last from a few hours to several months. Recoveries take place usually during the year, seldom after that time and hardly ever after two years, when the disease passes over into chronic mania or dementia—that is to say: when the acute stage becomes chronic and, aside from extant delusions, considerable intelligence mains, the case becomes one of chronic mania, but when with the delusions remaining, there is also a loss of mental power to a considerable extent, then dementia follows. One particular kind of mania may here be yet alluded to—where the disease enters almost without visible melancholia, takes a very rapid course, with fever, delirium, and great prostration, ending, in two to six weeks, in death. Upon opening the skull, acute inflammation of the membranes, with effusions, are found.

Prognosis.—Not quite as large a percentage afflicted with mania get well, as with melancholia. Nevertheless many are the recoveries of acute mania. When of long duration, or when passing over to chronic mania, the chances are very much diminished. The mortality during the stage of acute mania is, however, less than during melancholia, being only about four per cent., to the others six or seven per cent.

Puerperal mania offers sufficient peculiarities by its cause and on account of its symptoms, as to merit a distinct consideration. It is a state of insanity arising from and follow-

ing parturition, and occurs during the period of *excitement* of the lacteal system. It is also peculiar on account of its occurring during a state of woman, when any complication of the normal progress of that state is most acutely felt and difficult to deal with.

It is rarer in lying-in hospitals than in private practice, probably because the poor and destitute have during and after parturition less care at their homes than at a hospital.

The danger of puerperal insanity to appear decreases with the time after parturition, so that more than two-thirds occur within a fortnight, and a large portion of them during the first five days. Again, more cases are noticed after the first pregnancy than subsequently.

We find very few instances where melancholia is the type of puerperal insanity, and if we do, it can generally be traced to previous attacks of that kind without a puerperal state, so that we have to speak here only of "mania" after pregnancy. Dementia can, of course, not be termed puerperal, being a sequela of mania too far distant from the original cause. Puerperal mania, then, offers us at first sight the following very characteristic group of symptoms: (1) Fever, (2) intense mental excitement, (3) excessive incoherence in what is said, and (4) a disposition to use obscene words during all the incoherent talk. Dr. Macdonald pronounces the last as very characteristic, on account of its constant occurrence and the gross manner in which the words are displayed, quite differently from what happens with women in other types of mania. The malady approaches in the following manner: The patient feels restless and uncomfortable, and cannot catch the little cat-naps so desirable in the lying-in state; she complains of headache, and the nurse reports a diminution or complete cessation of the lochia; the appearance of the woman is changed, and an anxious look in the countenance is noticed; the pulse is quickened, and what is called nervous or irritable; appetite is lost, and

upon examining the tongue, we find it coated and white; epigastrium heavy; urine scanty, and, when tested, albuminous; the secretion of milk diminishes or entirely ceases. In some cases an inflammatory condition supervenes, and these generally terminate fatally.

The general mental excitement mentioned above developes into complete aversion to everything previously dear to her; husband and child are disregarded and neglected, and cases are on record where attempts to kill the child have been made; no matter how correct previous habit and decorum may have been, they are displaced by indecent language, oaths of fearful nature, and exclamations or mutterings which astonish all who knew her before; she talks incessantly and angrily, gesticulating wildly, while the eye is unsteady and wandering; hyperæsthesia and accuteness of senses, particularly hearing, accompany this wild state of things; even suicidal desires have been observed; occasionally the symptoms partake of the hysterical, the patient crying and laughing alternately, accompanied with convulsions.

Aside from mechanical injury or contusion to parts during parturition in tedious and instrumental labor, and which is sometimes the real cause of the calamity, it has been noticed that women susceptible to mental derangement find the parturient state a fruitful exciting cause. Other causes are strong mental excitement; for instance, the remorse of having an illegitimate child, particularly when unmarried; mental distress, or shock of any kind; anxiety during prolonged labor, etc. If not combined with inflammations of internal parts, or marked phrenitis, the progress is very favorable. About eighty per cent. recover, and about five per cent. die. Some pass into a state of chronic insanity and dementia. The first sign of recovery is the return of the lochia, or milk, and, if later, of the menstrual flow.

Monomania, or, as it is sometimes called, delusional in-

sanity, or also chronic mania (a misnomer), occurs generally as a sequence of mania. Here the patient deals with some erroneous conviction on a definite subject, which has taken such a hold upon his reasoning faculties that every other consideration is either laid aside or drawn *into* the category of his subject, and judged accordingly, and, of course, erroneously; otherwise he *seems* not mentally deranged. Maudsley very correctly calls it a systematization of the morbid action in the supreme cerebral centres.

We must be guarded not to fall into the error of believing that the individual is of sound mind outside of his monomania. This is not so; it merely seems so. How can the intellectual faculty be normal when it does not recognize the impression made upon the affective or emotional centres, when it does not *appreciate* the error, and therefore acts, and thinks, and does wrong? The reasoning and intellectual faculties cannot be *affected in one direction only;* it is the *generally* affected state which allows a particular erroneous action.

Because the mental state of monomonia is constantly under the influence of surrounding circumstances, either to act as a cause for an outbreak, or to give that outburst of mania a particular direction, color, and shade, it is best to keep the patient from such influence. It therefore arises that a monomaniac is not only much better off for his own feelings, but also for his own good, in a lunatic asylum, for there he has not ground enough to expand upon, nor cause enough to bear matters upon his misdirected conceptions. A patient brought to a hospital in that state is soon found to get apparently better, and friends and relatives visiting him often believe him cured, and ask, in spite of the physician's objections, for his release, when, scarcely among worldly influence, the morbid respectivity of the latter shows its true colors, and the patient waxes worse, even worse than before. Occasionally, the direction of ideas partakes, under the new

influence, of a new, or at least somewhat different character, and often the relapse is very violent.

We have observed that monomania is a sort of delusional insanity of the emotional centres and affective life. Now, it happens that the false impression is so engrossed upon that emotional nervous system that an outward cause is not always necessary to give it impulse; in other words, it becomes entirely *animal like or instinctive*, and is, I think, very properly called by Esquirol *instinctive monomania;* whereas, otherwise, some cause, however small, is necessary as an incentive to an outbreak, when we may call it *affective monomania.* In both of them the general character is about the same, the difference lying only in the existing causation, and in the continuity of susceptibility to bring about this morbid action.

Another peculiarity must be alluded to, to allow of a perect understanding of a completely developed case of monomania. We come frequently across individuals whom we know have from their very birth a defect of the organic functions of the brain, varying in degree from slight imbecility to complete idiocy. Such individuals demonstrate their abnormal action by non-recognition of morality, according to their degree of alienation; and during their childhood lean, by fancy probably (for their immoral manifestation seems to give them intense satisfaction), towards offense of one or several of those moral laws which are impressed upon the crowning point of God's creation—man. Lying, fighting, stealing, contrariness, complete incorrigible villainy, irresistible pleasure to torture, even killing, without a spark of human kindness, respect, or feeling, are the principal characteristic propensities of such cases.

Now, as by the definition given to insanity, at the beginning of these lectures—a *change* of a person's mode of acting, thinking, and doing things—this very definition becomes a test of insanity, the state of things described in the previ-

ous paragraph cannot, under the circumstances, be such a test, and although its classification among the various phases of monomania is probably the clearest and best, it ought to be looked upon as a "congenital mental deformity."

Delusions (perversion of existing things) and illusions or hallucinations (imagination of non existing things), either one or the other, are the prototype of monomaniacal symptoms. The degree of a patient's previous state of mental education, conjoined with circumstances occurring in every-day life, be they social, religious, or political, give the first coloring to these delusions and hallucinations, out of which spring the perverted actions of the individual; sometimes in language and expression of ideas, or in deeds resulting from regularly constructed, but of course out of place, plans, or sometimes in continuous brooding over mechanical or scientific novelties and inventions which engross the patient's mind. This diseased psycho-cerebral condition does not usually appear at once, but comes on gradually, and is noticed by a show of reserve at first, in which the patient seems absorbed in some particular thought, and if disturbed in it, is considerably annoyed, which annoyance will often produce an outburst of the very acts and doings which express the character of his delusion. This mono-activity of the brain will very naturally at first seek to exclude everybody else from its sphere, and suspicions arise toward the nearest kin or those around the patient, and all acts from and by them are looked upon as having as an object his physical or mental destruction, or to embarrass him in the execution of some premeditated scheme. The least irritation will now sever him from any rational connection with the world around, the first outburst occurs, and the projected deed is committed. Outrageous as that may be, a reaction generally occurs in the first attacks, and the person seems for a while to ponder over the feasibility of his acts, even sometimes showing a kind of remorse; but the seed has been

sown, and every attack brings him further from control of himself, until the delusion becomes constant and steady, and the acts correspondingly frequent in their occurrence. Such is the initiation and progress of the majority of cases of monomania.

We meet, however, occasionally with cases which do not take such a wild and random stretch of the unnatural, and it is well to have an insight to that anomaly of perversion. It occurs prominently in individuals who in health are what is called possessed of indomitable self control, firmness of will and coolness under all circumstances. They feel the storm coming and fight against it, as the epileptic sometimes feels his "aura" and runs for help. Such persons by any overstrain of their mental faculties or shock to their supreme nerve centre, in short, when powers of endurance are put upon the stretch, suddenly find themselves no more competent for their usual mental functions, complain of dull headaches, (one said as if the brain was compressed from all sides), sleeplessness, loss of appetite, often expressing themselves as, I feel changed, I am not like myself, and the like. And so they are. Were it not for some control which they were in the habit of exercising over themselves, they would now give up to strange impulses arising unconsciously. Tendencies to do this and that which their self-possession overcomes, for a while haunt them. Poison is bought for suicide, and afterwards thrown away with disgust; sorties from home are made for some purpose or other, but the errand given up when halfway; letters are written, sometimes of one tenor, then of another, and, when sealed and addressed, thrown into the fire; in short, deeds done which the better self abhors and therefore undoes. I will quote here what a patient said to Dr. Tuke, and taken from his work. "I have my reason, but I have not the command of my feeling; circumstances in life create feelings and prejudices which prevent my passing through life smoothly. My *intellect* is not

insane; it is my feelings I cannot control." Never was there a better description given. Such patients actually know and feel their disease, but, although they can partially avoid overt insane acts for a time, they cannot avoid the wrong impulses. This fact induces many to seek advice from a physician, or to place themselves voluntarily under the care of some institution, and they often are quickly cured. Unfortunately, however, some are doomed to insanity for life, often a short one, for many commit suicide.

The prognosis of monomania is very unfavorable. Its character being in itself one of chronic insanity, makes it so. Almost all monomaniacs, if not relieved by death, pass into a state of dementia.

As we advance in the chronological order of the stages of insanity, we find the brain to become more and more pathologically affected, particularly in regard to that opaque milky exudation deposited between the membranes or their substrata, as well as their adhesions. It is, however, curious to note that in view of the above statement, so few changes in the brain are noticed in monomania, although it is generally conceded to be of a chronic character. The only reason we can assign for this seeming contradiction is, that, although we admit a functional disorder to be present, even if the alienation is confined to a change in only one direction, we must also admit that activity of the brain is correspondingly limited and confined, because on other subjects, but the abnormal, the patient shows no undue excitement. Even when the brain is congested and its vessels overloaded at the beginning of monomania, they seem to assume the natural state to a great degree after the first excitements, and when the acts and thoughts of the patient have run into their proper one-sided channel. But that a lesion of the brain can produce a change of intellectual functions beyond no doubt, as hundreds of surgical cases verify. Even on moral manifestations a decided influence has been observed, as a case

recorded by Dr. Wigan will testify: "A blow upon the head with a ruler, changed entirely the moral feelings of a pupil. On examination the skull was found to be injured, and upon trephining, a bone, which had pressed upon the brain, was elevated, whereupon perfect recovery of mind followed."

Although monomania may be found to exist in as many forms as hallucinations or delusions may exist, there are some not only of frequent occurrence, but also of medical and moral interest, so as to justify a special mention. Among these is *homicidal monomania* Two forms of this kind of monomania must be acknowledged. 1. When there is no cause for the act except an irresistible impulse to kill, and 2. When an imaginary cause *is* present, or where some object is in view for doing the act. These two do not include homicide by idiots, which belongs to another consideration of the subject.

Homicide by an insane impulse is often brought up in court as defense of a criminal. Care must be taken to do justice in our discrimination. Although a person may commit murder under such an impulse and be perfectly sane before and after the act, we shall generally find him or her to have done things at previous times which indicate insane ideas and delusisns. One case described by Dr. Skae reveals the truth of the existence of a sudden impulse to kill, for "she deplored in piteous terms the horrible propensity under which she labored." On the other hand we ought to be equally cautious not to consider a criminal insane without having a clue to see the insane propensity. (*Vide* Forensic Medicine.) As for homicide, with imaginary causes, I can give you only a few of the latter, and of designs which these unfortunates feel, and by which they are forced to execute such terrible deeds. 1. A belief that some one intends to kill him or her. 2. In the belief of doing a christian act by sending one to heaven. 3. A revenge for imaginary wrongs or insults. 4. The illusion that voices are

heard constantly urging to the act. 5. Mistaken identity for a person against whom there is a deep grudge. 6. Political excitement; saving the country by killing its enemy. 7. A morbid feeling of pleasure to kill. Some disease of the body producing temporary insanity, viz., epilepsy, puerperal state, and all diseases of the digestive tract, uterus, heart, etc., are often productive of homicidal mania.

Suicidal Monomania is either a monomania in itself, or finds its cause in another disease of the supreme functions of the brain. Let us see: 1. A person in health has an instinct for love of life; this instinct, when perverted by unsound ideas, may result in love to take it. 2. A person in deep mental distress (melancholia), when not debarred by the feeling of religious wrong, may be tempted to relieve the suffering by suicide. 3. Hallucinations and delusions—a person hears and believes in a commanding voice ordering self-destruction; another sees an imaginary form leading him or her into a river; another is under the impression that he must sacrifice his life to God, and various others. 4. In many cases suicide can be traced to sudden mental alienation, the result of bodily ailments—same as in homicidal monomania—also to remorse from habitual drunkenness.

The age at which most suicides occur is between forty and fifty years. Some remarkable cases are on record where it occurred in children.

Men commit this act more frequently than women. The season when the insane commit this act is most frequently during spring and summer, and, according to my observations, almost invariably before the outbreak of a storm. The manner of committing suicide is most frequently, in hospitals, by strangulation or a sharp instrument, out of hospital by strangulation, drowning, and firearms; in France frequently by suffocation with charcoal.

Kleptomania is an insane longing for other people's property, an irresistible impulse to steal, no matter how trifling

the value, and no matter whether the thief is rich or poor. It is usually associated with other symptoms of insanity.

Erotomania is essentially a disease of the brain, accompanied with great mental and bodily depression and a low condition of the system. With it there is a morbid mental condition, wherein the imagination to love some body or some one overrules sound judgment. It is distinct from nymphomania or satyriasis, first, by the individual not entertaining lewd thoughts, and, secondly, by none of the sexual organs being concomitantly diseased. Erotomania proper affects principally the young and ardent temperaments of great susceptibilty. The prognosis is not very favorable; unless cured at the beginning the patient rapidly emaciates and sinks.

Nymphomania is due to an irritation of the sexual organs in the female, caused most frequently by inflammation of the mucous membrane of the sexual passages, or by an eruption therein, or by an acrid and irritating flow, either catamenial or otherwise. It is also often the result of masturbation. Aside from the external passages, irritation of the uterus or ovaries may be set down as a cause, the latter producing hallucinations, such as imaginary cohabitation and the like. It is generally accompanied by great excitement both bodily and mentally, flushed face, restlessness and insomnia, and the special mental characteristics—lewd thoughts, utterances and acts so outrageously low and disgusting as to throw the doings of the most depraved of public women into the shade. The acts of nymphomania are too filthy to be mentioned.

Satyriasis.—What nymphomania is in the female, satyriasis is in the male, and therefore little need be said about it. The cause is also irritations of the sexual organs, masturbation (very seldom the opposite want of sexual intercourse, as stated by some). Prognosis of nymphomania favorable, of satyriasis less so.

Pyromania, or a morbid impulse to burn. This diseased mental condition, with a *propensity* to *destroy things by fire*, is seldom seen in a distinctive form, but associated with other forms of insanity, viz., imbecility, melancholia, mania, monomania (destructive mania), dipsomania, and epileptic mania. It is sometimes very difficult to ascertain whether the setting on fire is due to an impulse or to disease. According to Marc it occurs mostly to young persons, and has been by him attributed to an abnormal development of the sexual organs. This is problematical. To decide whether the act can be attributed to a diseased brain, we must carefully examine the general state of health in regard to the vegetative as well as the nervous organs, and look for spasms, epilepsy, catalepsy, etc. Like homicidal mania, it does sometimes appear simply emotional, an impulse without intellectual disorder, or simply as a pleasure to see a blaze.

Dipsomania.—An irresistible impulse to intoxicate oneself. The means used are alcoholic stimulants, opium, haschish, and other drugs. In this subject we only admit cases where cerebral disease is the sole cause of inebriety, and to come to a correct conclusion in regard to this, we must search for symptoms, other than are usually found in a habitual drunkard; in other words, look for signs to lead to a conclusion of insanity. Irresistibility has been pointed out as the best diagnostic mark, but I think that this word will not help us. Irresistible! When? when you cannot get any? then the dipsomaniac and the drunkard can alike do without it, and to get it, both will use every means and trick, fair or foul. Better signs are the physical conditions, the sleeplessness, the soft quiet pulse, (so different from the drunkard), the cold moist skin and the prostration; another important one is its periodicity or intermission. During the intermission, the dipsomaniac *hates* any kind of intoxicating drinks. To the chronic state of dipsomania, as described by

Hutcheson, I cannot say Amen. It is only a description of a drunkard by habit. Prognosis unfavorable. Post mortem appearance: effusion of serum in the ventricles of the brain and the arachnoid, atrophy of nerve fibres and grey substance, deposits of fat in liver and heart, also sometimes in the nervous tissues, in form of granulated patches. The mucous membrane of the stomach and small intestines is hard and thick, looking more like fibrous than mucous tissue to the naked eye.

Although treatment of insanity will be discussed in a special lecture, that of dipsomania cannot be well included in it, therefore a few remarks here. Restraint for a long while is undoubtedly the best remedy, and has been the most successful. In case of great nervous uneasiness following the restraint, aconite, alternated with digitalis has been effective, and in case a substitute to supply the alimentary canal, particularly the stomach, with a stimulus, is necessary, I believe there is nothing better than chloric ether with nux vomica. A very liberal nutritious diet of nitrogenized food must be given to the patient. Moral persuasion that the confinement and restraint is for his or her own good, is very valuable as an adjuvant to medicine. All facilities to allow him or her to do some thing self-responsible. Particularly if a direction for managing his own affairs by writing can be allowed, it will act beneficially on the mental state.

TRANSLATIONS.

ART. VIII.—Note on Generalized Vaso-Motor Paralysis of the Superior Extremities. (Duchenne de Boulogne.) Translated by BERNARD ELLIS, M.D., etc.

The study of clinical characteristics has preceeded, in the case of most diseases, the physiological researches, which furnish more or less accurately the rational explanation of

their causes. It has been otherwise as regards those morbid phenomena which are assigned to the action of the nerves that preside over the functions of the blood-vessels. Experimental physiology, which, in 1727, under the auspices of Pourfour du Petit, went in advance of pathological observation into a new channel, indicated the course of certain vascular troubles before these phenomena had attracted the particular attention of clinical students. Nevertheless, though many experiments have followed in long succession, though the most eminent physiologists have multiplied acquisitions of science in relation to this subject, it seems reserved to pathology to deliver final judgment on the theories propounded, after weighing well the facts, and bringing out those distinguishing characters which nothing can differentiate in so delicate a manner as disease itself.

Hence it is that a peculiar interest should pertain to those clinical observations which happen to test the theories of physiologists, and as the cases which have been recorded are yet but few in number, and as diseases of this kind are not a little obscure, it is most important to note all the signs which may clearly fix their boundaries and indicate the path of scientific progress.

The recent observations of Dr. Maurice Raynaud* on Local Asphyxia of the Extremities, present pathological facts of considerable interest, and which appear to fall in with the theoretical explanation deduced from physiological experiments. It is well known that when we divide the sympathetic nerve, there are produced phenomena of vascularization and of calorification in corresponding parts of the body, which disappear when we galvanize the peripheral end of the separated nerve. Then the vessels contract again, and the heat diminishes. It should, however, be re-

* Raynaud.—Nonvelles recherches sur la nature et the traitement du l' asphyxie locale des extrémities. Archives General de Médecine Janvier, 1874.

membered that diminution of the temperature may be the result of other causes than the action of the sympathetic. Thus: first, if we sever the fifth pair, hyperæmia of the conjunctiva will follow, and yet there will be a decrease of temperature; second, if we tie the veins of a rabbit's ears, the small branches dilate, and there is statis of the blood, whilst the ears become cold.

In these cases, according to the elegant experiments of M. Claude Bernard,* a notable augmentation of temperature follows on the section of the sympathetic nerve.

It is different, however, with respect to the phenomena of decreased temperature and ischæmia, produced by ligation of the arteries.

Now, in the cases observed by Dr. Raynaud, "the extremities," he remarks, "become the seat of decreased temperature, accompanied by cyanosis, lividity, and by sensations more or less painful." Afterwards, in the more serious cases, gangrenous spots make their appearance. The disease affects a symmetrical form, and these accidents may be intermittent. He believes that these phenomena must be attributed to a vice of vaso-motor innervation, and that the symmetrical form of the lesions has for cause an excitement proceeding from the center of the spinal cord.

His hypothesis asserts the existence of a vascular spasm in the ultimate ramifications of the blood-vessels, varying from simple diminution of calibre to complete closure. With this closure we should have a bloodless and cadaveric condition of the part, whereas "the minute arteries alone being closed, and the smaller veins open, we should have venous stasis produced, whence the cyanosis and livid aspect which we see in a majority of cases."

This hypothesis offers some difficulties. We know it is true, from the experiments of M. Brown-Sequard,† that irri-

* Claude Bernard.—Leçons sur la physiologie et la pathologie du systeme nerveux.

† Brown-Sequard—Course of lectures, etc., page 147, 1860.

tation of the vaso-motor nerves produces partial ischæmia, abatement of temperature, pallor, and a marked lowering of the vital activity. But we must not forget that in diseases of this kind very important lesions have been found by Professor Charcot, who writes, "As to the instances of spontaneous gangrene which have been connected with a vascular spasm, they should not have, judging from my own observations, the significance which has been accorded them, because in all cases of this kind which I have happened to encounter I have found the caliber of the vessels either diminished by a morbid alteration of the arterial walls, or obstructed by a thrombus."*

Diminution of temperature is likewise found in scleroderma,† in which we may believe the caliber of the minute vessels of the skin is decreased, because of the morbid production of much finely granular matter in the meshes of the connective tissue. This would give rise to pressure from without. Indeed, according to Rassmussen, an infiltration of small cells into the vascular sheaths constitutes the principal point of the histological alterations.

These instances go to prove that local mechanical causes may of themselves alone be sufficient to account for the phenomena described by Dr. Raynaud, without involving central irritation of the spinal cord. In fact, when we recall the experiments of M. Waller, who has observed hyperæmia to follow quickly on ischæmia because of the exhaustion of nervous energy, we should be tempted to conclude against the existence of a continued spasm (in non-hysterical cases) were it not that M. O. Weber asserts that he has succeeded in producing a constant irritation for nearly a week of the

* Charcot—Leçons sur les Maladies du System Nerveux, recenillis par Bourneville, 1872–73, p. 126.

† Professor Ball has recently (March, 1874) communicated to the Société de Biologie a most interesting case of scleroderma, in which the decreasing temperature was well shown.

cervical sympathetic, marked by a decrease of temperature to the extent of 2° centigrade (or 3½° F). Even then, however, there arose no troubles of nutrition. It should be added that Dr. Raynaud cites, in support of his hypothesis, certain unusual pulsations in the central vein of the retina, and partial spasmodic constrictions of the arteries of that region, which have been occasionally met with in the cases of local asphyxia collated by him.

The following case, that of a patient whom Dr. Duchenne (de Boulogne) submitted to my examination, requesting me to put on record my opinions—in which he concurred—offers a direct confirmation of some remarkable facts demonstrated by experimental physiology, and which may, it is hoped, serve to clear up some points which have been hitherto obscure.

History.—C., aged fifty years, a copper trimmer, is a man of robust constitution and florid complexion, who has hitherto enjoyed excellent health. He has had neither cough nor colic, nor any of the symptoms usually assigned to copper poisoning, whether the heart, the respiratory or the digestive organs be considered. The hands, which are in an abnormal condition, present no lesion except the cicatrix of an old whitlow on the left forefinger. He came to be treated for impotence, and that, at first, was all he complained of; but other phenomena were soon discovered, some of which were traced back several years. By careful questioning the following facts were elicited:

In 1872 he was aware of weakness in the arms and legs, but most especially in the knees. This sensation, however, neither became localized nor remained constant; it seemed to flit through all his members. In 1873 he noticed it to predominate in the left knee. This uneasy sensation, which caused no pain and was transient, seemed to ascend along the leg from the calf to the thigh, and the proof that it was not merely a subjective sensation lies in the fact that the

weakness of the leg increased so much at times that he was obliged to sit down. He usually recovered, however, in a few minutes, and was able to go about his work as before. No aggravation of his symptoms occurred when he walked out; on the contrary, the exercise did him good, and after a brisk walk of half an hour he felt a marked sensation of pleasurable ease. The disorder, as we see, was intermittent, showing itself after intervals of comparative health.

In January last, however, he was attacked in a more enduring manner in both upper and lower extremities, the sensation of debility being greatest in the left arm and right leg. So much was he enfeebled, that whereas when formerly attacked he could lift a weight of two or three pounds, he became at this time unable even to keep his forearm flexed upon the arm. He preserved the power of flexion, but not the power of maintaining it; for in a few seconds the forearm would fall of its own weight. At this stage the muscular force of the hands, tested by the dynamometer of Dr. Duchenne (de Boulogne), was equivalent, on an average, to 43 kilogrammes, or 94.6 pounds.

The color of his hands had become of a deep red, and this florid flush extended up the forearms, gradually diminishing in intensity. Let us add that, notwithstanding the vascular disturbance, there was no symptom which could be referred to the existence of scleroderma, to which there was some superficial resemblance.

The patient complained of great heat in the hands and forearms, and this increase of temperature was plainly perceptible to all who touched them; and it is a very remarkable fact that their sensibility was so greatly augmented that every thing he touched—instruments, wood, or paper—appeared to him cold as ice. He was troubled with formication in the forearms, which increased to a distressing degree when he rubbed his hands together, as in washing them.

Heat aggravated, and cold diminished the pain—facts of which he became aware from using cold and warm water.

As to the inferior extremities, they present different phenomena. There was, indeed, debility, as has been remarked, but the symptoms of the disease seem to have decussated. Thus, whilst the left arm was the weaker, the right leg was the more feeble. Instead of the hyperæsthesia which we observed in the hands, there was a notable loss of sensibility in the right foot, so that he did not feel the ground when walking. His foot seemed to him asleep or benumbed. There was at times slight formication in the right leg, but very little in the left. Nor was there a hyperthermal condition here, as in the upper extremities. Although the temperature of the soles of the feet seemed normal to himself during the day time, it had been remarked that when lying down and during the night they were icy cold to the touch.

In the lumbar region he had felt an intense itchiness, as though he had been beaten with nettles. This unpleasant sensation was not constant, and had only appeared five or six times in all, and then only in the morning and at night, when he was dressing or undressing and exposed to the cold air—phenomena occasionally found in the case of persons suffering from urticaria. There were no ridges or wheals perceptible.

It is highly interesting to note that when this urticaria made its appearance in the loins, the formication disappeared from the upper extremities.

As there was reason to suspect the existence of ocular troubles, we questioned his memory, and found that he had observed something like a mist before his eyes, especially at night. This disorder had, in fact, reached such a point in January last (1874) that he had given up attempting to read.

On his left eye-ball a harmless pterygium was remarked.

On applying the ophthalmoscope, Prof. Panas found that the fundus of the right eye was normal, whilst there was a very marked pathological excavation of the papilla of the left eye, the fundus of which was slightly congested.

Let us note, in conclusion, that during the continuance of his ailment he complained of great thirst, and of unusual drowsiness after meals.

Treatment.—Dr. Duchenne (de Boulogne) considered it proper, in this case, to try faradisation of the upper extremities, and this treatment was crowned with rapid and complete success. The patient remarked that he felt relief from the first application. After the seventh application, the following facts were established:

1st. The almost complete disappearance of the dark-red abnormal color, and the restoration of the natural temperature.

2d. The absence of the debility complained of, and the restoration of the muscular strength to nearly the normal standard.

Before the treatment he could not lift, at his best moments, a weight of four or five pounds without great effort, followed by extreme fatigue; he can now raise a considerable weight without experiencing any inconvenience. Tested by the dynamometer, the muscular force of his hands has increased by over four pounds.

The impotence, unusual thirst, and drowsiness after meals have disappeared, and his sight, although not yet perfect, has been so much improved that he can now read with comfort.

Etiology.—It was impossible to discover any fact in the patient's history to which we could with certainty attribute the origin of his disease. Nevertheless, it seemed to me not improbable that whilst working at his trade he might have been subjected to the influence of some kind of metallic poisoning, which acted on the nervous system, producing effects

not previously described. Suspecting this, and having discovered, during my microscopic investigations of the atmosphere, the presence of metals, in a finely divided state, in the air of various work-shops, I questioned him as to his occupation. In trimming copper, and removing any roughness there may chance to be present, much dust is caused, and he admitted having "swallowed" a quantity of it. Now, this dust, of which I obtained a specimen, contained the metal in a fine powder, which, when carried about by currents of air, would necessarily be drawn into the lungs.

It may be asked whether copper will affect the system in a manner such as that characteristic of this disease, or at all? Some authors—as, for instance, Doctors Boys de Lowry, A. Chevalier,* and Dr. de Pietra Santa†—have, indeed, denied the noxious influence of copper, even though the bones of operatives are known to become green-colored, owing to its absorption, a fact discovered from the *post mortem* examinations conducted at Durfort, Tarn. Blandet,‡ on the other hand, asserts that a metallic colic is the inevitable tribute paid to the influence of copper by all apprentices, and adds that adult workmen not seldom suffer from it themselves.

Becquerel, though at first disposed to admit the existence of a specific copper-colic, has since come to the conclusion that a true enteritis is produced, in which, among other symptoms, increased thirst is manifested, whilst the tongue may be normal, dry, or red. Three cases which came under his own observation had been evidently developed under the influence of copper-poisoning.§

Although these authors have not observed upon the exist-

---

* Chevalier.—*Notes sur les ouvriers qui travaillent le cuivre.* Annales d'Hygiene, t. XXXVII., p. 305.

† Sietra, Santa.—*Union Medicale,* 23d October, 1850.

‡ Blandet.—*Journale de Medicine de Trousseau,* March, 1845.

§ Becquerel.—*Traite d'Hygiene,* p. 940. 1873.

ence of any nervous symptoms, there can be no doubt that the nervous system is implicated when cases of copper-poisoning take place. Thus, at different stages, the patients suffer from violent headache, from a sense of constriction in the throat, an acrid taste in the mouth, a burning thirst, and severe cardialgia. It remains to be seen whether a more rigid investigation into the health of copper-workers would not result in discovering the occasional presence of symptoms such as those found in the case of our patient C., symptoms which might readily have been overlooked when colic and enteritis had shown themselves, for these are not only more disagreeable diseases, but also more easily diagnosed.

Theory.—It is proper here to point out, in the first place, how closely the principal phenomena noted in this case harmonize with the data furnished by experimental physiology, and afterwards to examine whether we have not discovered some indications which may project light upon obscure points.

We know already that when the normal action of the sympathetic nerve has been interrupted, we should expect to find pathognomic phenomena beyond the lesion. A marked increase of the vascularity and temperature of the corresponding parts of the frame is manifested, exactly as we have seen it take place in our patient. Is this increase accompanied by formication? To such a question, experiments made upon animals can give no answer; but taking into consideration the statements made by our human patient, we should conclude that the existence of formication in animals thus treated is highly probable.

Presenting as they do identical phenomena of increased vascularity and augmented temperature, it seems of necessity to follow that they experience also a heightened sensibility and are affected by a like formication. This is a conclusion which experimental physiology may borrow from clinical observation, and it should accept it with the less hesitation

as it appears to be corroborated by an experiment of Dr. Samuel.* Having faradised the casserian ganglion in a rabbit, there were produced among other effects slight hyperæmia of the conjunctiva and an exaltation of sensibility so extreme that at the least touch of the eye-ball the animal was seized with general convulsions.

In the case of our patient, the contact and friction of the hands, even so slightly as in washing them, were enough to augment the sensibility to such an extent as to cause considerable distress. Like sufferings are felt when, owing to excessive reaction, there is a great afflux of blood to parts benumbed or frozen by intense cold. As regards our patient, the augmentation of temperature and of sensibility was so great as to render it painful for him to work at his trade, seeing that everything he touched, even wood and paper, gave him a sensation of icy coldness, and thus it became impossible to handle his tools without positive suffering. In a less robust individual the suffering would probably have manifested itself still more. The patient did not complain of any congestion of the conjunctiva, though some traces of it were perceptible; we could scarcely consider them, however, as of nervous origin. It is otherwise as regards the congestion of the fundus of the left eye, which seems attributable to the same cause as the peculiar debility noticeable in the left arm, although both hands were affected by the hyperæmia.

Dr. Raynaud has observed that the veins of the fundus oculi appeared a little more distended, and the capillary network a little more voluminous in rabbits, after he had severed the sympathetic at the neck. On subjecting the distal end to the action of electricity, he saw the central artery grow pale and almost entirely disappear.

But irritation produces a much greater effect, according to the experiments of Dr. Adamiuk, of Kazan, who writes, "If

* S. Samuel—Die trophischen nerven, p. 61, 1860.

taking an animal under the influence of curare (woorara), we irritate the sympathetic center of the spinal cord, on a level with the two inferior cervical vertebræ (Budge), and if, at the same time, we examine the eye with the ophthalmoscope, we shall recognize immediately in the vessels the same distribution of blood which we see in glaucoma—the veins are greatly distended and the arteries contracted."* [We should in like manner expect to see, when the action of the sympathetic is interrupted, a hyperæmia produced by distension of the blood-vessels, consecutive on irritation of the dilator nerves.† Clinical observation appears to support here also the distinction laid down by MM. Claude Bernard, Brown-Sequard, and Charcot, between the results resulting from a single section and those produced by an irritation of the nerve.]

Fever and simple paralysis of the muscular walls of the vessels explains to us neither the alterations of temperature and sensibility nor the ocular troubles of our patient. We are obliged to infer the existence of a central irritation of the dilator nerves, with a correlative exhaustion of energy in the constrictor nerves. But how shall we explain the success of the treatment upon this hypothesis? When without any lesion of the ganglionic system the anterior cornua of the spinal cord have undergone rapid change, as in the case of infantile myelitis, Dr. Duchenne (de Bologne) has found that the skin is discolored or cyanotic, the vessels being contracted, and the temperature lowered, whilst at the same time the muscles are atrophied. The heart-beats preserve

* Adamiuk—Etiologie du Glaucome, Annales d'Oculistique, t. lviii, p. 45, 1865.

† It is an error to say, as some have said, that the theory of dilator nerves has been abandoned by all but Dr. Duchenne (de Bologne). The eminent physiologist, Claude Bernard, sustained it with forcible arguments in his lectures delivered during the present season (1874) at the College de France.

their normal energy, the pulse is not enfeebled, but the impressive force of the blood suffices no longer to dilate the minute vessels. The dilator force, proceeding from the cerebro-spinal system, being destroyed, there is predominance of the constrictor force, coming from the (uninjured) ganglionic or great sympathetic system. Now the first effect of treatment by direct muscular faradisation in such a case should be rubefaction of the skin, followed by elevation of temperature and augmentation of sensibility.

If that be so, how comes it that in a case of hyperæmia faradisation can bring about a cure, which depends upon a diminution of the temperature, redness, and sensibility?

First, admitting, for the moment, that the theory of blood stasis propounded by Doctors Brown-Sequard and Waller be correct, then it would follow that faradisation, that is to say, that the cause which would produce the paralysis of the muscular walls would also cure it, which is absurd. Now, the cure itself is an established fact, and the cause of the apparent contradiction is not very difficult to explain if it be conceded that we have to deal with two distinct nervous systems.

When describing the effects produced by faradisation, such as rubefaction, Dr. Duchenne (de Boulogne) put the following question: "Why do not the vaso-motor constrictors, which topical faradisation ought to influence, when it influences the vaso-motor dilators, produce constriction of the vessels at this time? I confess that at present I do not know the reason. I confine myself to stating the fact"* Taught by the phenomena observed in our patient suffering from hyperæmia, we may suppose that in cases of infantile myelitis, characterized by ischæmia as described, the ganglionic system then exerts its constrictor power to the utmost, not being moderated by the action of the suffering cerebro-spinal system.

* Duchenne (de Boulogne) De l'electrisation localisee, p. 157. 1872.

In that case the electric excitation, which no longer acted on this nervous system, then at its highest tension (so to speak), passed altogether (by direct or reflex action) to influence the cerebro-spinal system and increase its dilator force, so that, thanks to its assistance, equilibrium was restored and even a reaction produced.

The phenomena observed in the case of the patient C—— may be explained in a similar manner. Here the pathogenic irritation lies in the cerebro-spinal system, the action of the sympathetic suffering in some way is partially abolished, and its constrictor force arrested. The dilator force of the complementary system is, consequently, free to exert itself to the utmost, and the result is that augmentation of vascularity, temperature, and sensibility, which we have seen. Then the faradaic excitation must pass over that system, which is at its highest tension, so that all its force goes to influence the ailing ganglionic system, and the equilibrium is again restored.

That the electric stimulus should produce a greater effect upon an unsound than upon a healthy system is, besides, no more than we ought to expect, judging from the general facts, of its therapeutical action.

As Professor Schiff affirms that alterations in nutrition take place readily, and develop rapidly in regions which have become hyperæmic, and as this opinion has been contradicted by Professor Virchow and other observers, it will not be without interest to notice that an inflammatory lesion showed itself in one of our patient's fingers when he was almost cured. The inflammation affected a joint of the left fore finger, the same which was marked by a whitlow scar, so that there was local debility. This tends to confirm, so far as it goes, the view taken by Dr. Claude Bernard, who holds that such lesions take place under conditions of local enfeeblement.

The inflammation referred to, it may be remarked, passed off without giving any trouble.

The phenomena observed in the inferior extremities demand our attention also. They were the converse of those seen in the upper extremities. The lowering of the temperature, and the diminution of the sensibility described, combine, with the impotence of which the patient complain, to indicate a lesion the converse of that which we have been studying.

The "erector-nerves" of Eckhardt are acknowledged to be dilator-nerves, the existence of which in the abdominal region has been established by Dr. Claude Bernard.

The objections raised by some to the existence of dilator nerves can not apply here, and if there was no hyperæmia in this region it was obviously not for want of a dilator apparatus. Since, therefore, the means of action were not deficient, it seems to me that we must attribute the ischæmia, anæsthesia, and lowering of the temperature, to compensating effect of remote action, an exhaustion in the inferior nerve-region being correlated with, and compensatory to, the abnormal excitement in the superior, and *vice versa*. Clinical facts prove the probability of this view in attesting the existence of complementary alternations.

Thus, in certain diseases of the nervous system, ischæmia has been observed to follow hyperæmia, and hyperæmia to be consecutive on ischæmia, as atony follows spasm. Hence, when we see hyperæmia and ischæmia produced at the same time, there is reason to believe that one is the complementary result of the cause which produces the other.* From these data it seems to follow that we should recognise the possible existence of similar troubles elsewhere than in the

* The hemi-anæsthesia of hysteria offers in this relation very important phenomena. Half the body (vertically) is smitten with palor and coldness, united with an ischæmia more or less permanent. Now Professor Charcot has demonstrated that a most remarkable relation exists between this hemi-anæsthesia and ovarian hyperæsthesia. [CHARCOT.—*Leçons*, p. 209, 1872, 1873.]

exterior of the body. Since they have been observed in the interior of the eye, why may they not exist in the heart, for instance, or other internal organs, either in alternation or simultaneously with external manifestations, or be altogether internal? * A correct diagnosis and accurate investigation yet remains to be made of those obscure, uneasy sensations, dull pains, flushes of heat, chill shivers, vague feelings of oppression, and other disorders which many invalids experience.

Dr. Raynaud has observed a case where coldness and cyanosis of the extremities, on the one hand, and ocular troubles on the other, alternated during several months. He states, also, that a patient who had cold hands, with numbness and cyanosis, complained of uneasiness in the precordial region. "The patient," he remarks with seeming incredulity, "professes to have felt, during a couple of months, a little oppression in the precordial region. A careful examination of the heart gives absolutely negative results."

The ophthalmoscope exists, but the cardiascope has not yet been discovered. It is, however, logical to believe that a transient and non-inflammatory hyperæmia may exist. It should be suspected, for instance, and studiously sought after in cases of alleged oppression, and in cases of nervous palpitation, where there is a sensation of precordial uneasiness, with faintness and syncope—remote results. †

---

* The preceding note confirms this view, as it shows hyperæsthesia of an internal organ, correlated with external anæsthesia.

† The phenomena of cerebro-cardiac neurosis described by Dr. Krishaber, a Hungarian physician, offer some analogies with those mentioned. In his writings, which may be consulted with advantage, he classifies the symptoms of this disease under four heads: first, discords of the senses; second, of locomotion; third, of the circulation; and fourth, secondary troubles. To the first group belong false or prevented conceptions, and hyperæsthesia of the senses. The second includes giddiness and vertigo, causing abolition of the sense of equilibrium or balance power. This may

Where exanthemata threaten, we often find, as in febrile urticaria, the disease ushered in by shivering, nausea, cough, and fainting-fits. These symptoms usually vanish when the eruption makes its appearance on the surface of the body. Such phenomena caused Trosseau to admit the possible existence upon the bronchial mucous-membrane of an eruption analagous to that which afterwards shows itself upon the skin. Finally, the recognized existence of hyperæmia in several organs should dispel objections and stimulate to further investigation.

It is manifest that in the present state of science, no final judgment can be pronounced upon the hypothesis which we have been discussing. The time has not yet come. But it appeared to us that there were space, opportunity, and need for an effort in this direction, and we believe that, in any case, the assemblage and bearings of the facts here set forth open new horizons to pathological science, and promise an abundant harvest to those observers who shall consent to engage in this order of research.

---

be followed by paresis, made known by a feeling of lassitude or exhaustion, by involuntary movements, or by paraplegia. Disorders of the circulation consist chiefly in an irritable state of the vascular system, such that the least movement, as the act of sitting up in bed, or rising from a chair, may quicken the pulse by twenty, thirty, or even forty beats a minute. A person may be seized in the midst of his business, without any fore-warning, by a peculiar feeling in the head, as of a flash or an ascending wave, then instantly follow a deadening of sensation, humming in the ears, flashes of light in the eyes, or photopsy, and at the same time a sensation of anxiety and anguish in the region of the heart, accompanied by palpitations, extreme uneasiness, and a general impressionability or "nervous" state. Simultaneously, or a few moments after, vertigoes may occur, and titubation or staggering, and some times paraplegia. But it happens also that instead of being paralyzed, the patient experiences an extreme agitation, which impels him to walk about in spite of himself. Some times swoonings and syncope are observed to take place at the same time. These fits tend to recur, with diminishing intervals. KRISHABER.—*De la nevropathie—Cardiac.*

CLINICAL RECORDS.

ART. IX.—*Case of Puerperal Eclampsia.* Recovery. By J. T. DAVIS, M.D., Fellow of the Zanesville Academy of Medicine, and Member of Muskingum County Medical Society. Reported to M. C. M. S., August Session, 1877.

May 29, 1877—8 P.M. Mrs. W., aged 24, pregnant for first time; expects to be confined in a month; is sick at the stomach, and has vomited several times during the afternoon; said she had headache, but not severe; had taken a dose of salts during the forenoon; it had not operated. The temperature was not taken. Pulse 80; tongue moist and clean. Concluding that the nausea and vomiting, with headache, were the result of her pregnant condition, and not having any apprehension as to what was soon to follow, I prescribed bismuth, oxalate of cerium, and sulph. morph., a powder to be taken at once, and if not better in two hours, to be repeated. Recalled at midnight. I was informed by the husband that she felt better soon after taking the first powder, and took the second before going to bed, some time after ten o'clock; said he was aroused about twelve o'clock, and found her in a convulsion. Not knowing where I resided, he called on Dr. Ball, who told him where I lived, sent him for me, and said he would meet me at his house. When I arrived Dr. Ball had bled her to the extent of forty to fifty ounces. She had had several convulsions prior to the bleeding, and two afterwards, twenty minutes apart. After the bleeding the pulse was still very strong and full, which made it probable for more convulsions to follow. As the patient had a badly deformed pelvis, without space for a

fully developed child to pass through, we decided to bring on labor at once, if possible. But upon examination the os could not be found. Any farther proceedings were postponed till morning. Dr. B. left, saying that it was a very serious case, and requested me to remain with our patient. I put her under the influence of chloroform, and in the course of an hour the pulse came down, requiring only the inhalation of a little chloroform at long intervals. Large mustard plasters were applied over the abdomen and to the back of the neck. Cold applications were applied to the head. A large enema of salts was given, and as it did not come away in three-quarters of an hour, it was repeated. The bowels failing to move in due time, I gave her two drops of croton oil, which was followed by large, watery stools. About six A.M. I ceased administering chloroform. She still complained of her head aching. I then prescribed forty grs. of potassic bromide, half drachm each fld. ext. buchu and spr. nit. ether, to be given every two hours.

9 A.M. I examined her again, and found the os readily. It was soft and dilatable, so as to admit my forefinger. I then concluded to dilate the os and bring on labor. Through the kindness of Drs. Ball and Holston I was furnished with one of Dr. W. Molesworth's Climax Dilators, and about eleven A.M. I began dilating the os by using tube No. 3, and injected it three times full of warm water. I let it remain in its position about twenty minutes, when all at once it came away. An examination disclosed that the os had dilated to about the size of the top of a tea-cup. I gave her ʒi of fld. ext. ergot, which was repeated in half an hour. About one o'clock P.M. I noticed my patient was somewhat restless at times, which I attributed to labor pains. I examined again, and found the os soft and dilated, with a large bag of waters protruding. I gave her more ergot, put her under the influence of chloroform, ruptured the membranes, and about two P.M. delivered her of a dead child weighing

about five and a half or six pounds. The parietal bones were considerably overlapped. The placenta came away in about twenty minutes.

I visited her at 9 P.M.; found her sleeping soundly, but could be aroused, and would answer questions, but would drop off to sleep in a few moments. Her pulse was 120, strong, with considerable fever. Bowels had moved several times during the afternoon, and she had passed urine quite freely. I gave her 12 drops of tr. veratrum viride, and requested 5 drops to be given to her every four hours. I continued the potassic bromide in 20 grain doses, with the diuretic mixture, every two hours; also to have the vagina washed out with a solution of carbolic acid.

9 o'clock A.M., Thursday. Patient still inclined to sleep; would awake often and ask for water. Pulse, 85; temperature, 100. Bowels moved once during the night; urinated freely. She ate a slice of toast and drank a cup of tea for breakfast. Complains of no pain or tenderness about the abdomen. The bromide and diuretic mixture was continued every four hours.

3 P.M. The patient about the same.

9 P.M. Temperature, 100; pulse, 75. Bowels moved twice during the day; kidneys acting properly; no pain or tenderness; still inclined to sleep.

9 o'clock A.M. Temperature, 100; pulse, 75. Not so sleepy; said she felt quite well. She was informed this morning what she had passed through—all of which was a perfect blank in her memory.

9 o'clock P.M. Temperature, 98½; pulse, 75. Patient has been feeling quite well all day; not so drowsy; ate a light supper. All medicines were discontinued, and from this time the patient improved rapidly, and in the course of a week was up and about the house.

For more than twenty years past there has been going on a most active inquiry as to the etiology of puerperal con-

vulsions, with constant additions to our knowledge of the subject and frequent modifications of theory, but even at the present day science has not settled the question. Many writers have sought to divide puerperal convulsions into different classes, based either upon the difference of phenomena supposed to be offered in different cases, or upon difference in the constitutional condition of the subject in whom the attack occurs, or upon a theory of the cause of the convulsions. Thus one author would make three classes—the apoplectic, the epileptic, and the hysterical; another would divide them into the uræmic, hyperæmic, the anæmic, and the hysterical; another would only make two classes—the uræmic and the hysterical. Thus the theories in regard to the causation of eclampsia are numerous, but they admit of being divided under two heads—first, the toxæmic theories; second, mechanical theories. The former attempt to explain the cerebral condition, whatever it is, by the action of poison circulating in the blood; the latter try to account for the condition on purely mechanical considerations. As these theories are familiar to all the members of the Society, I would like to hear their views in regard to them.

ART. X.—*Case of Retained Ovum after Death of Fœtus, Expelled in the Tenth Month of Pregnancy.* By G. S. STEIN, M.D., Columbus, Ohio.

Mrs. A., mother of four children. Symptoms of pregnancy manifested themselves about the first of July, 1876; health good from the commencement; some menstrual flow every month. About the first of December, or in the fifth month of her pregnancy, flow quite profuse, accompanied by pain. A physician was called, who gave her large doses of tincture opii and chloroform, which appeared to control the discharge and pain for the time.

Ceased to enlarge about the middle of January, or in the sixth and a half month of pregnancy.

February first, considerable discharge per vaginam, of a menstrual character.

April 29. At the end of her tenth month I was called in great haste; found the lady in active labor. Upon examination the cervix was felt elongated, the os sufficiently dilated to admit the finger, the presentation appeared normal, the membranes having ruptured one week previous, so I was informed.

The pain, in a short time after my arrival, appeared to be ineffective; ergot was given, which increased the pain very much, and the labor made satisfactory progress.

In two hours a mass was expelled into the vagina, which on being removed proved to be an ovum entire. There was considerable dark brownish fluid discharged with it. The fœtus appeared to be of six or of six and a half months development; its tissues were shriveled but firm; the umbilical cord was attached at both extremities, and very much shrunk and possessed very little strength; the fœtal extremities were flattened; the cranial bones separated upon my attempt at removal from the bed to a more appropriate place. The placenta was expelled in a few minutes by a slight traction on the cord. The placental mass was about five inches long by four wide; its uterine surface presented no evidence of recent detachment, some parts of the fœtal surface had apparently undergone inflammatory changes; there was a slight fœtid smell about the ovum.

In reflecting upon this case, there are a few questions that suggest themselves. What determined the protracted retention of this dead ovum, where its immediate expulsion is the rule? Why did it not live to a mature birth? There was no sign, neither is there any reason to suspect an attempt at abortion. The lady in general enjoys good health.

ART. XI.—*A Case of Accidental Concealed Hæmorrhage, followed by Quick and Painless Labor.* By J. M. WHEATON, M.D., Prof. of Anatomy, Starling Medical College.

On the 29th of June last, I was called about noon to see Mrs. R., aged about thirty-two years, married, and in the latter part of the eighth or beginning of the ninth month of her fifth pregnancy.

I found her lying in bed, with pale and pinched countenance, anxious and restless. Pulse quick and thrilling. She stated that two hours before, while sitting in her chair engaged in some light employment, she became suddenly sick, and so faint as to get to bed with difficulty, and that she felt as though she would burst. Both herself and friends asserted that she had become much larger. There had been no external hæmorrhage, and no labor pains. A vaginal examination discovered no dilatation of the os uteri, or obliteration of the cervix. Ordered stimulants freely, and morphia, one-fourth of a grain every half hour.

3 P.M. Pulse less quick, and anxiety less marked; restlessness continues; vaginal signs unchanged.

7 P.M. No change, except that she had vomited.

8:30 P.M. Was called in haste, and found that she had flooded severely; restlessness, anxiety and pain all removed; felt comfortable, and had sent for me under the impression that the waters had broken, which was probably the case; a vaginal examination, however, showed no obliteration of cervix uteri, with but the slightest dilatation of the os, and very little softening; there had been no labor pains; feels well, though weak; stimulants and anodynes continued *pro re natâ.*

July 1, 9 A.M. Doing well; slight febrile reaction; passed a comfortable night.

3 P.M. No change; dilatation of os not sufficient to allow the passage of the finger through the cervex.

8 P.M. Condition the same; has had no medicine since morning; has no appetite; has felt no motion since sick;

had no sign of a labor pain at any time; no vaginal examination.

At 9 P.M., feeling an inclination to stool, got up, and before she could get back to bed, gave birth to a dead child of normal development. She stated that she had no idea of being in labor when she got up, and felt no pain "till the child came."

She remained weak and anæmic for three or four weeks, but is now in good health.

The case is interesting, perhaps unique, on account of the time the hæmorrhage remained concealed—ten hours; also, for the rapidity with which dilatation took place, as well as the entire absence of ordinary labor pains.

ART. XII.—*Case of Cancer of the Stomach.* By OTTO FRANKENBERG, M. D Prof. of Pathology in Starling Medical College.

I am indebted to my friend Dr. Stewart for the clinical history of the case, which is given in his own words, and also for an invitation to be present at the autopsy, which at his request I made, and report:

Mr. G. M., born in Pennsylvania; was married at the age of eighteen; learned the trade of moulder at the age of nineteen; had very severe attacks of pleurisy at the age of twenty and twenty-three, and a severe attack of pneumonia at the age of thirty-three.

Soon after this he moved to the State of Ohio. At the age of forty-two he had a severe attack of cholera; at the age of forty-five another severe attack of pneumonia; at fifty-one a severe attack of what is commonly called cholera morbus, and at fifty-three died of cancer of the stomach.

I became acquainted with this case about two years before his death. He was a temperate and industrious man, and had always worked at the moulder's trade; he began complaining of pain and tenderness of the stomach within

three years after learning his trade, more especially when working steadily, or after a hard day's work; he had frequent attacks of colic or cholera morbus, lasting from a few hours to a few days; much more frequent were these attacks during the last three years of his life.

He said that he had not been entirely free from pain or tenderness in or about the stomach for an hour for twelve years before death. During the last two years of his life he vomited his food occasionally, and suffered considerably from indigestion.

It was the general remark or observation among his neighbors that Mr. M. was gradually failing, losing both flesh and buoyancy of spirit, having been quite robust, and of a jovial disposition. About six months before death he had several front teeth knocked out by a prisoner in the penitentiary, and before fully recovering from this mishap, he was attacked with severe colic; the usual remedies were used, but without relief. The region of the stomach was then thoroughly vesicated, which gave relief for a time. He now began suffering in the face, head, shoulders, and chest, with very severe pains, seemingly neuralgic in their nature.

About seven weeks before death he came to me to have a tooth extracted; I told him it was not necessary, as the tooth was not decayed, but he insisted, and I removed it. The next day I removed a second tooth, but still there was no relief; the third day, the neuralgic pains ceased, except in the upper surface of the right portion of the lower lip, at a point opposite the canine tooth, where the pain was more or less severe until death. At the same time, stomach trouble began again, with severe nausea and vomiting; the bowels were constipated; stercoraceous matter was vomited quite often.

After about fifteen days of almost constant nausea and vomiting, having fully tried all known remedies without any relief, and not being entirely satisfied whether I had

a case of chronic gastritis, ulcer of the stomach, or cancer of the stomach, I called counsel. Dr. Loving, accompanied by Dr. Pooley, came, and upon examination it was decided to be cancer of the stomach.

I had been giving, for several days previous to calling counsel, ice or ice water by the mouth, enemata of beef tea, milk or egg-nog, and hypodermic injections of morphine. This treatment was continued, the doses of morphine being gradually increased until ten grs. per day were required to give the patient any relief from pain or vomiting. The patient lived twenty-eight days after counsel was called. About nineteen days before death he vomited a half pint of pus, and at three different times between vomiting pus and death he vomited small clots of blood, amounting in the aggregate to not more than one ounce. He vomited stercoraceous matter only during the first three weeks. After that it had the appearance of coffee grounds or coffee-colored water, with very offensive odor. The patient was not predisposed to cancer hereditarily, so far as known. His wife is, her grandmother, father, sister, and sister's three children all having died of cancer.

Now one or two queries. At what probable period of life did the cancer in this patient begin to develop? Also, could there be any possibility for a man to take cancer from his wife?

Post-mortem examination was at 3 P.M., twenty-six hours after death. The body was considerably emaciated, and presented that peculiar sallow, yellowish appearance which is spoken of by some as characteristic of cancer. Lungs slightly adherent on both sides, especially the apices. Lower lobe of left lung congested. The lungs were almost black, from the penetration of particles of coal into the substance of the lung itself, constituting the condition known as "anthracosis." The heart seemed normal. The stomach was found to be adherent to the liver and intestines, caused by inflam-

matory processes. In the anterior wall of the stomach, about midway between the cardiac and pyloric orifice, a perforation existed, circular in form, sufficiently large to admit two fingers, but did not communicate with the abdomen, as the parts had been previously agglutinated by the existing inflammatory process, but led into a small cavity, from which, in all probability, came the pus, already spoken of. Pus could not be discovered in the abdomen. The bottom of the cavity was formed by the liver, and at this spot only did the liver show signs of inflammation, not extending beyond the adhesions existing between it and the stomach.

A hard, irregular mass, extending from the pylorus along the lesser curvature of the stomach to within a few inches of the cardiac orifice, measuring six inches in length, two and one-half to three in breadth. The inner surface of this mass is rough, nodular, and ulcerated.

Left kidney has a cyst on its surface, in size equal to that of a pigeon egg, containing a clear, watery fluid. The other organs were normal.

Microscopical examination shows that the tumor is principally composed of fibrous stroma, with here and there a nest of cells. The cells are round in form, especially those found in the granulations of the ulcerating surface.

Next to the uterus, the stomach is the most frequent organ attacked by cancer, scirrhus being the most common variety. Of one hundred and twenty cases collected by Köhler (cancer of the stomach), fifty-nine occurred at the pylorus, seventeen on the lesser curvature, eleven on anterior and posterior surfaces, eight at the cardiac extremity, three on the greater curvature, three involving the whole stomach, and in one case at several points.

CORRESPONDENCE.

Prof. J. H. Pooley, Editor Ohio Medical and Surgical Journal:

DEAR DOCTOR: This year's heated term seems to be over, and we are having cooler weather now than we had even up to a few days ago. We have passed the middle of September, and we are now no more greeted with such exclamations from every one we meet with in New York, as, "Oh, how terribly hot it is! I am almost roasted to death! How sultry, how oppressive, how stifling it is to-day!" Somewhat reluctantly I commence my letter which I promised to send you, with referring to the state of the weather as it has been not long ago, and as it is to-day in New York, because, it is generally considered commonplace—nay, a want of intelligence—to commence a conversation or a letter by alluding to the state of the weather. I would not for all the world like to be considered commonplace, much less give expression to anything that might indicate a want of intelligence. My purpose, to speak seriously, in mentioning the weather as an introductory is to point out to your readers, and to lament the frightful mortality from which this city is suffering every summer, to which the excessive heat, no doubt, contributes its share as one of the causative agents; with others that might be prevented if due care was taken.

The culture, wealth, and refinement of this metropolis are mostly spending the summer at the different watering places, in the mountains, on the seashore, or by traveling

abroad. We physicians follow the people of refinement of other pursuits, and escape in summer as often as we can from the polluted, nauseating, overheated atmosphere of New York, which causes the frightful mortality here during the summer months, principally among the poor. Our colleges are then closed; our medical meeting and reading-rooms are deserted; and everybody who can afford it spends part of, or many, the whole summer in the country. On returning to our office in the city, we find that even pecuniarily we had not lost much by our absence, since the wealthy and many of the so-called middle classes of society are away from New York. Physicians who attend the poorer classes in New York are busier in summer than at any other season of the year. The dispensaries are overcrowded, but pay patients are scarce, and the practice of medicine is not at all remunerative here during the hot season. This is the rule. To this, as to every other rule, there are exceptions.

The consequences of the heat, and the culpable neglect of the first principles of hygiene in New York in many quarters, during the summer especially, are, alas! too well known to those who visit some portions of our city during June, July, and August, and have been so often referred to in our public press that it might be almost superfluous to say another word about it. I think, however, it should be agitated and referred to constantly, so that the slaughter of our innocents should cease where it can be prevented, by the study of hygiene and the observance of its laws, and I hope that, in the future, this science will be one of the chief studies of the conscientious physician, and people will then not die prematurely from and through ignorance, as they do now.

Compare, for instance, the officially published statistical data of the week ending August 11, 1877, and you will find that, while the mortality in New York, per thousand inhabitants, was forty and over, in San Francisco, under better hygienic and atmospheric conditions, the death rate for the

same period of time was only twelve. Taking the population of New York to be one million, there die in New York forty thousand human beings, while in San Francisco, with the same number of inhabitants, there would die twelve thousand—a difference of twenty-eight thousand lives spared, in favor of San Francisco, if the population were the same number there as it is here; or, in other words, twenty-eight thousand human lives unnecessarily lost in New York. Is it not well to pause and to inquire why should foggy London, in England, with four times the number of inhabitants as New York, lose only twenty-three per cent. of a thousand inhabitants in one week, while New York lost forty in the same period of time? Nearly nine thousand children, under five years of age, died in this city from the first of January of this year to the first of September, It is safe to say, without fear of contradiction, that a large proportion of these might have been saved had the laws of nature been properly studied and the lesson taught by these been properly applied. But look at the quarters of the poor of New York—and these are the greatest sufferers from sickness, and are an easy prey to the destroying influences under which they live and die—and you will find it natural that so many lose their lives prematurely.

The densely populated portions of our city on the east and west side, the sanitary condition of which is disgraceful, naturally suffer most, and hecatombs of innocent lives are slaughtered annually through ignorance partly and culpable neglect of duty of those authorities who are munificently paid for work which they should, but never do perform. The tenement houses and the miserable shanties which serve as human abodes in this city are too filthy and too badly constructed as not to cause disease and death. They are badly ventilated, lighted and heated; their drainage is defective, and the privies and gutters send through the sleeping and living apartments of the poor, effluvia and death-breeding

miasma, which few can withstand. It is enough for the casual observer to visit one of these pest houses and to observe the sunken eyes which stare at you from their caves; it is enough to see the flabby muscles, and their loosely, overhanging, dirty, yellowish, jaundiced and sunburnt skin, the red and inflamed eyelids, the infiltrated glandular swellings around the neck, to know that we have before us one of the inhabitants of the dirtier regions of our city. Look, on the contrary, at the well-to-do people who enjoy the refreshing sea or mountain air during the summer, and live in comfortable quarters in the winter, and you can at once predict that one generation of these will outlive two or three of those of the poorer classes. Is it to be wondered at that those of tender age should perish when overcome by the excessive heat during the summer months, living under such abominable anti-hygienic conditions?

It is the duty of the municipality to prevent over-crowding in the cities; it is its duty to pave the streets properly, to have them thoroughly cleaned, washed, and disinfected; it is its duty to see that all human and animal excrements be thoroughly removed by proper drainage and sewer connections. It is the duty of sanitary authorities to banish from the city limits slaughter-houses, fat-melting, sausage-making, and other obnoxious and highly injurious establishments, and have these transferred to the country. New York stands in great need of more honest officials, who will strictly carry out the laws; it stands in need of so-called rapid transit and means of transportation to and from the city. Instead of erecting costly edifices for the relief of the sick poor in the city, these should be erected in the country, within easy access to the city. Reception hospitals for the admission of the sick, where these could obtain the first medical aid, to be thence transferred to the permanent county hospital, would be all that is required in a city. Let the permanent houses of relief be erected in the future on the pavilion plan, on

the sea shore or a salubrious neighboring part of the country. What shall we say of the horrible pavement in some parts of our city! The so-called cobble-stones are irregularly shaped, and have interstices between them for the accumulation of filth and decaying animal and vegetable matter. There are blocks on Ninth and Tenth avenues, above Thirtieth street, and also in the lower parts of the city, east and west side, where I have seen large holes in the pavements extending for several feet, filled with stagnant pools of nauseous compounds, covered with green scums, and filling the atmosphere with health-destroying and pestilential gases. Add to all this the excessive heat from which every one who remains in the city is suffering during our summer months, and no one need be surprised at our great—especially infant—mortality.

The improper quality and quantity of food taken, the excesses committed in eating, drinking, the insufficient and inappropriate amount of clothing used, are additional reasons, no doubt, of epidemics which decimate the population of a large city. It is a wonder to me that no more people die prematurely under such circumstances. I have not taken into consideration the accidental deaths that figure up pretty high in our city. Ambition, sorrow, grief, disappointments in business, in love, all these often hasten their victims to that bourne whence no traveler ever returns. These latter causes are, however, an atom, a mite only to those that can be prevented. I allude to the horrible death-rate in this city, and its probable preventable causes, for this reason, in my letter. I think it is high time that our medical men should become the teachers of the people regarding sanitary measures; but, in order that the physician should be enabled to do his duty towards the community he lives in, he must himself be more of a hygienist than most of our physicians are to-day. I have looked over the prospectuses of several of our colleges, and I have not been

able in some of them to discover lectures on hygiene announced. In the laying out of towns, and even villages, the medical man should be consulted. He ought to be able to examine the salubrity of the climate of the place, to analyze the available water supply for drinking and cooking purposes. He should, in conjunction with the architect, measure and indicate the necessary air-space of each room and house, and the law should provide that such and such a house owner should be prohibited from letting his house to more persons than can safely inhabit the same. He should superintend the schools, public and private, and should examine, as has been suggested, the sight of school children, so that the near-sighted should not sit the most distant, and the far-sighted the nearest to the teacher, etc. It is for the country physician to instruct his people regarding drainage of undrained lands, and proper house-drainage, and all matters appertaining to cleanliness of persons and their dwellings. Cleanliness in every thing is one of the great preventives of disease. How few people, and perhaps physicians, know that the biting of their finger nails may cause them pain and discomfort for years, by introducing eggs of the cysticereus into their bodies, and cause tape-worms to develop, as I have had instances lately. How few physicians are to-day competent to examine human food, or diseased meat in especial! And few know, I fear, as Heller states in *Ziemssen's Cyclopedia*, that nearly half the population of Germany, for instance, are infested and suffering from worms. What amount of mischief is caused by the trichinæ, the cysticerci? The Greeks, says Heller, l. c., distinguished three sorts of worms only—the tape-worm, the round-worm, and the thread-worm, mentioned by Hippocrates and Aristides. The Romans only recognized two species—"Celsus and Pliny," broad and round-worms. It was not till more modern times, further says Heller, nor indeed till the present day, that more accurate information was acquired, as

regards the immense variety of forms. Of the animal parasites which take up their abode in man, and whose number is about fifty, twenty-one inhabit the intestinal canal. It is probable, however, that our knowledge in this respect is not yet complete, but rather that the number will be increased, as soon as those making observations are possessed of the necessary preliminary information. Of the twenty-one intestinal parasites, three are infusoria, nine belong to the tape-worm class, two to the suctorial, and seven to the round-worm class. Heller, who paid particular attention to the absence or presence of worms in 621 post mortem examinations, found them present in 291 cases, equal to 47.6 per cent. The above figures are below the truth, says Heller; some post mortems were made by inexperienced hands and eyes; further, in private houses, the intestines were, for other reasons, not at all opened, or the surroundings, especially with regard to light, were often most unfavorable; and single examples, especially of oxyuris, often escaped observation. The first condition necessary for the development of a parasite in the intestine, is, of course, the introduction of eggs, embryos, or of young forms. In the great majority, they are introduced with the food.

The degree of culture that people possess, and the habits and customs dependent on it, have a powerful influence. Cleanliness in general, and especially with regard to eating and drinking is the great preventive. Whole nations, which possess but little cultivation, suffer greatly from parasites of every description, so much so, indeed, that among them it is quite the exception to find any one who is quite free from them. Of much importance is the influence heat has in the development of the eggs of many species of worms. (See *Ziemssen's Cyclopedia of Medicine*, vol. 7, Diseases of the Chylopoectic System.) I have dwelt at some length upon the necessity of establishing chairs for the teaching of public hygiene, which was the principal object in my mind in

detailing the frightful mortality taking place here among us through neglect of proper hygiene, and from some unavoidable causes, of course, not yet understood. Is it not proper for a journal like yours, to urge the importance of teaching public hygiene, not only in all our medical schools, but to rather do away with the useless teaching of anatomy, and physiology in our common public schools, and devote more time to the study of hygiene? Boards of health, it is true, have been created in several States in the Union, but these hold mostly, with a few exceptions, political sinecures, with good salaries, and the incumbents are often ignorant and dishonest. Meat and food inspectors in general, who know nothing about the microscope and chemistry, are a fraud upon the community where they exist.

I have only partly pointed out in this letter the many causes producing disease, and shortening human life. I am free to confess I have said very little that is new; but, alas! even if not new, it is very true. The truth must be told, since truth outlives everything else, and stands forever; it must be told, no matter how unsavory it may be to some persons to hear or read it.

The evil of over-crowding, improper food supply, and bad drainage, continue to cause disease and premature death, without the application of the proper remedies. Is it not high time that these questions should be fully brought to the attention of the medical world, and the public in general? I am sure of the good results that will follow the agitation of this question.

The first meeting of the New York Academy of Medicine was held on the 21st Sept., after its summer vacation, at No. 12 W. Thirty-first street, Dr. S. S. Purple in the chair. The different sections on surgery, medicine, gynæcology, obstetrics, etc., were called upon, but having held no meetings since the adjournment of the Academy, had nothing to re-

port. The Librarian acknowledged the receipt of many valuable books and periodicals.

The paper of the evening was read by Dr. Beverly Robinson, on "Endocarditis, Myocarditis, and Pericarditis, and the various Organic Diseases affecting the Heart." He showed the close connection existing between heart and lung disease, and claimed the great superiority of large doses of digitalis, in the treatment of these affections, in preference to either quinine, arsenic, phosphorus, veratrum viride, aconite, ice applications, or the alkalies, as given if dependent on a rheumatic diathesis.

Finally, I am compelled to report the death of Professor Crosby, of Bellevue Hospital Medical College, which occurred recently, and is lamented by all who knew him. Medical science has lost in him one of its most ardent devotees—one of its most zealous disciples and teachers. As you, Mr. Editor, were appointed to complete the course of surgical lectures which the departed Professor began at Dartmouth Medical College, in New Hampshire—which appointment I saw announced in the New York medical journals—you are, of course, fully familiar with the great loss we have sustained by the death of Dr. Crosby, although you may not have known him personally. All that is good and noble in man found an echo in his manly breast. A conscientious physi cian, a true friend, an excellent teacher, he was no doubt a devoted and self-sacrificing husband. May his memory live forever in the hearts of his professional brethren.

Truly yours,

Dr. RUDOLF TAUSZKY.

BOOK NOTICES.

NAPHEYS' THERAPEUTICS.—Already the edition of this work, which was published at the commencement of the present year, is *entirely exhausted.* No higher testimony to its worth could be given. It recommends itself at once to every physician who sees it. As was remarked by the *New York Medical Record*, "As a handbook of Therapeutics, pure and simple, it is invaluable to every practicing physician;" and the reason was well stated by the *American Medical Bi-Weekly:* "In no work can the practitioner learn so easily as in this one, the favorite medicines used in treating diseases, and the best methods of compounding them."

A new edition (the *fifth*) is in active preparation. The editor has been assisted by several very competent gentlemen in special departments, and the work has received a most thorough revision, and very large additions. Indeed, so extensive are the latter, that the two parts into which the work is divided, viz., 1, Medical Therapeutics, and 2, Surgical Therapeutics, will each make a volume by itself, quite as large as that which embraced both divisions in the last edition (about 600 pages). They will be printed on handsome tinted paper, in the best style, and each part, as wholly independent, will be sold separately if desired.

Original in design, and carried out with vast research, this work may justly claim precedence in real, practical, everyday value, over any others ever issued by the American Medical Press.

The following works have been received, but we regret that want of space prevents our giving them proper attention in this number. We shall try in our next issue to give our readers a just idea of their merits.

LECTURES ON PRACTICAL SURGERY. By H. H. Toland, M.D., Professor of the Principles and Practice of Surgery and Clinical Surgery in the Medical Department of the University of California. Philadelphia: Lindsay & Blakiston.

THE EAR: ITS ANATOMY, PHYSIOLOGY, AND DISEASES. A Practical Treatise for the use of Medical Students and Practitioners. By Charles H. Burnett, A.M., M.D. Philadelphia: Henry C. Lea.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Volume I, for the year 1876. Boston: Published by H. O. Houghton & Co.

AN INDEX OF DISEASES AND THEIR TREATMENT. By Thomas Hawkes Tanner, M.D., F.L.S. Second edition, reviewed by W. H. Broadbent, M.D. Philadelphia: Lindsay & Blakiston.

THE PRACTITIONER'S REFERENCE BOOK; adapted to the use of the Physician, the Pharmacist, and the Student. By Richard J. Dunglison, M.D. Philadelphia: Lindsay & Blakiston.

FAT AND BLOOD, AND HOW TO MAKE THEM. By S. Weir Mitchell, M.D. Philadelphia: J. B. Lippincott & Co.

NURSE AND PATIENT, AND CAMP CURE. By S. Weir Mitchell, M.D. Philadelphia: J. B. Lippincott & Co.